DEVELOPMENT PLAN

1390 A.H. (1970 A.D.)

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DEVELOPMENT AND

THE KINGDOM OF SAUDI ARABIA.

CENTRAL PLANNING ORGANIZATION

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MANAGEMENT PLAN

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His Majesty King Faisal Ibn Abdul Aziz

In the name of God the merciful the compassionate

Tayif, 13/6/1390 A.H.
16/8/1970 A.D.

His Majesty King Faisal,
President of the Council of Ministers

Your Majesty,

I am honoured to submit to Your Majesty the Development Plan for the Kingdom of Saudi Arabia, prepared by the Central Planning Organization in accordance with Articles (B) and (C) of the Council of Ministers Resolution No. 430 dated 11-12/9/1384 A.H., endorsed by Royal Decree No. 19 dated 17/9/1384 A.H., and the Council of Ministers Resolution No. 693 dated 4-5/7/1389 A.H., that defined the guidelines for the Development Plan.

The contents of the plans of the sectors comprising our national economy were prepared with the cooperation of all ministries, agencies and government departments concerned with these sectors.

Please accept my highest regards and respect.

President
Central Planning Organization

Hisham Mohiddin Nazer

CONTENTS

	Page
CHAPTER I. INTRODUCTION	21
MAIN CHARACTERISTICS OF THE ECONOMY	21
POTENTIAL FOR DEVELOPMENT	22
PLAN OBJECTIVES	23
POLICIES, PROGRAMS AND PROJECTS	23
Government Policy and Organization	23
Social Development	23
Manpower Resources and Development	23
Education	24
Health and Nutrition	25
Housing	25
Social Welfare	25
Labor Affairs	26
Cultural Affairs	26
Physical Infrastructure	26
Electricity	26
Urban and Community Water	27
Municipal Facilities and Services	27
Roads and Road Transport	27
Ports and Railway	27
Civil Aviation	27
Saudi Arabian Airlines	28
Meteorology	28
Telecommunications	28
Postal Services	28
Industry (Mining, Manufacturing, and Construction)	28
Agriculture	29
Trade, Services and the Hajj	30
Trade and Services	30
The Hajj	30
FINANCIAL ALLOCATIONS	30
CHAPTER II. THE PROJECTED GROWTH OF THE NATIONAL ECONOMY	31
SUMMARY OF RECENT TRENDS	31
SECTORAL ANALYSES	32
The Oil Sector	32
Agriculture	33
Mining and Quarrying (excluding petroleum)	33
Manufacturing (excluding oil refining)	34
Construction	34
Electricity, Gas, Water and Sanitary Services	34
Transportation, Communications and Storage	35
Wholesale and Retail Trade	35
Banking, Insurance, and Real Estate	35
Ownership of Dwellings	36
Public Administration and Defense	36
Health	36
Education	37
Other Services	37

GROSS DOMESTIC PRODUCT — SUMMARY AND CONCLUSIONS 37
CHAPTER III. GOVERNMENT POLICY AND ORGANIZATION 43
PUBLIC FINANCE 43
Financial Allocations for the Plan 44
MONEY AND BANKING 45
Objectives and Targets 45
ENCOURAGEMENT OF PRIVATE ENTERPRISE 45
ADMINISTRATIVE REFORM 46
Objectives and Targets 49
PLANNING AND RESEARCH 49
Objectives and Targets 50
STATISTICS 50
Objectives and Targets 52
Programs and Projects 53
Financial Allocations 54
Appendix: Major Statistical Series Required for Social and Economic Planning to be Developed During the Plan Period 58
PUBLIC WORKS 58
Objectives and Targets 59
Programs and Projects 59
Financial Allocations 60
MAPPING 60
Objectives and Targets 61
Programs and Projects 62
Financial Allocations 62
FINANCIAL ALLOCATIONS FOR ADMINISTRATION 65
CHAPTER IV. MANPOWER RESOURCES AND DEVELOPMENT 65
THE LABOR FORCE 67
MANPOWER DEVELOPMENT 67
Educational Institutions and Programs 70
Training Programs 74
MANPOWER REQUIREMENTS: THE PRIVATE SECTOR 74
By Main Industry Groups 76
By Occupation Groups and Units 76
By Education and Training Levels 77
MANPOWER REQUIREMENTS: THE PUBLIC SECTOR 77
Total Employment 78
Employment in Ministries and Departments 78
By Level of Education and Skill 80
MANPOWER REQUIREMENTS OF PETROMIN 80
TOTAL MANPOWER REQUIREMENTS OF THE KINGDOM 80
By Sector and Industry Groups 82
By Education, Training and Levels of Skill 82
Replacements Required 85
MANPOWER SUPPLY AND DEMAND DURING THE PLAN PERIOD 85
Necessary Immigration 86
Manpower Supply Deficiencies 86
Policies and Measures 86
Specific Policies 86
The Central Role of Education and Training 90
Restructuring Education and Training 90
Skill Formation and Improvement 91
High Level Manpower 91
Teacher and Instructor Shortage 91
Better Utilization of Human Resources 92
Rural Development, Internal Migration and Sedentarization of Nomads 92

Increased Popular Participation 92
Sectoral Employment Policies 93
Research and Studies 94

CHAPTER V. EDUCATION, VOCATIONAL TRAINING, AND CULTURAL AFFAIRS 95

EDUCATION 95
Introduction 95
Objectives 98
Boys' Education 98
Girls' Education 99
Higher Education 99
Religious Education 100
Special Programs for Education 100
Cultural Affairs Programs, Ministry of Education 100

Proposed Programs 101
Boys' Education 101
Elementary Education 101
Intermediate Education 101
Secondary Education 102
Teacher Training Institutes — Secondary Level 105
Technical/Vocational Education 105

Girls' Education 111
Elementary Education 111
Intermediate Education 111
Secondary Education 111
Teacher Training Institutes 115
Teachers' College for Women 115

Higher Education 115
University of Riyadh 115
College of Petroleum and Minerals 119
College of Education, Mecca 120
King Abdul Aziz University 120

Religious Education 120
Religious Institutes 120
College of Arabic Language 120
College of Sharia 121
Higher Institute of Justice 121
College of Sharia, Mecca 121
Islamic University 121

Special Programs for Education 121
Special Education 121
Adult Education and Literacy 121
Educational Television 122

Cultural Affairs Programs, Ministry of Education 122
Public Library System 122
Archaeology 122

Statistical Summaries 122
Financial Allocations 122
VOCATIONAL TRAINING 129
Introduction 129
Objectives 129
Targets 130
Programs 130
Financial Allocations 133
PUBLIC INFORMATION — RADIO AND TELEVISION 139
Introduction 139
Objectives 140

Proposed Programs 140
Statistical Summary 143
Financial Allocations 143

CHAPTER VI. HEALTH AND SOCIAL AFFAIRS 145

HEALTH AND NUTRITION 145

Objectives 146
Targets 146
Programs and Projects 151
Administrative Improvement 151
Supplies and Stores 151
Food in Hospitals 152
Manpower Development 152
Doctors Graduating 152
Training of Technicians 152
Other Training Fields 152
Health Network 153
Health Regions 153
Health Units 153
Field and Clinical Research 154
Programs of Public Health 154
Saudi Red Crescent Society 154
Financial Allocations 154

SOCIAL AFFAIRS 157

Objectives 158
Social Welfare 158
Social Security 158
Community Development 158
Cooperatives 158
Youth Welfare 159
Social Services Training 159

Proposed Programs 159
Social Welfare 159
Social Security 160
Community Development 163
Cooperatives 164
Youth Welfare 165
Social Services Training 166
Financial Allocations 169

LABOR AFFAIRS 169

Objectives 170
Proposed Programs 170
Labor Inspection 170
First-Instance Committee Program 170
Branch Labor Office Expansion 170
Employment Offices 173
Statistical Surveys and Research 173
Review Program 173
Staff Development and Training 173
Labor Guidance Programs 174
Building Construction 174
Financial Allocations 174

HOUSING 174

Objectives and Targets 174
Programs and Projects 175

Housing Survey 175
Housing Finance Institution 175
Model Residential Communities 175
Financial Allocations 175

CHAPTER VII. PUBLIC UTILITIES AND URBAN DEVELOPMENT 177

ELECTRICITY 177
Objectives 177
Programs 178
Financial Allocations 181

URBAN AND COMMUNITY WATER PROGRAM 182
Objectives and Targets 182
Programs 182
Financial Allocations 183

MUNICIPALITIES 184
Objectives and Targets 184
Programs and Projects 184
Financial Allocations 187

CHAPTER VIII. TRANSPORT AND COMMUNICATIONS 189

ROADS 189
Objectives 189
Targets 190
Required Regulations for Efficient Road Use 190
Road Use Regulation 190
Road User Charges 190
Programs 190
Road Construction 190
Studies 193
Maintenance 193
Organization and Procedures 193
Financial Allocations 194

PORTS AND RAILWAY 194
Objectives 194
Programs 194
Port Construction 194
Maintenance 197
Railway 197
Studies 197
Training and Personnel 197
Organization 197
Financial Allocations 197

SAUDI ARABIAN AIRLINES CORPORATION 198
Objectives and Strategy 198
Target and Programs 198
Marketing 198
Operations 199
Technical Programs 199
Communications 199
Manpower and Training 199
Property and Facilities 200
Data Processing 200
Financial Allocations 200

CIVIL AVIATION 200
Objectives and Targets 200
Programs 201
Operational Services 201
Administrative Improvements 201
Airport Development and Maintenance 201
Communications 201
Navigational Aids 202
Financial Allocations 202

TELECOMMUNICATIONS 202
Objectives and Targets 202
Programs and Projects 202
Telephone Systems 202
International Links 205
Telegraph Services 205
Intra-Kingdom Network 205
Monitoring and Testing 205
Organization and Training 205
Buildings 209
Financial Allocations 209

METEOROLOGY 209
Objectives and Targets 209
Programs 210
Air Force and Civil Aviation 210
Agrometeorological Requirements 210
Public Requirements 210
National Meteorological Center 210
Climatological Requirements 210
Organization and Personnel 210
Financial Allocations 211

POSTAL SERVICES 211
Objectives and Targets 211
Programs and Projects 211
Administration 211
Operations 212
Personnel and Training 212
Buildings 212
Public Relations 212
Financial Allocations 212

CHAPTER IX. INDUSTRY 213

POTENTIAL FOR DEVELOPMENT 213

OBJECTIVES AND TARGETS 217
Objectives 217
Targets 218
First Year 218
Second Year 219
Third Year 219
Remainder of Plan 220

PROGRAMS AND PROJECTS 220
Petroleum 220
Petrochemicals and Fertilizers 221
Mineral Resources 222
Basic Metal Industries 226
Manufacturing Industries 229
Construction and Maintenance 229

IMPLEMENTATION 239
Encouragement of Industrial Enterprise 239
The Directorate General of Mineral Resources 240
General Petroleum and Mineral Organization 241
Ministry of Commerce and Industry 242
Industrial Studies and Development Center 242
Industrial Bank 243
FINANCIAL ALLOCATIONS 243

CHAPTER X. AGRICULTURE 249

POTENTIAL FOR DEVELOPMENT 249

OBJECTIVES AND TARGETS 250
Objectives 250
Targets 250

PROGRAMS AND PROJECTS 256
Policies 256
Crops and Livestock 257
Wheat Production 258
Vegetable Production 258
Meat Production 261
Dates 261
Subsidy and Price Support Programs 261
Fertilizer Subsidies 262
Mechanization and Modernization Subsidy 262
Price Support 262
Irrigation and Drainage Projects 262
Repair and Protection 262
Completion of Current Projects 262
Completion of Approved Projects 263
Large Scale Irrigation Projects 263
Small Scale Irrigation Projects 263
IMPLEMENTATION 264
Supporting Services 264
Administrative Reform 264
Administration and Planning 264
General Services 265
Land and Water Management 265
Research and Technological Studies 265
Agricultural Extension 265
Manpower and Training 265
Agricultural Credit 266
FINANCIAL ALLOCATIONS 266

CHAPTER XI. TRADE AND SERVICES 269

CONTRIBUTION TO DEVELOPMENT 269
OBJECTIVES AND TARGETS 269
PROGRAMS AND PROJECTS 270
Planning Bureau 270
Information 275
Trade Promotion 275
Practical Training 275
Standardization and Quality Control 275
Price Stabilization and Controls 276
Judicial Framework 276
Foreign Investment Promotion 276
FINANCIAL ALLOCATIONS 277

TABLES*

Table		Page
1.	Average Annual Growth Rates of Value Added by Sector and Gross Domestic Product	38
2.	Summary of Financial Allocations for the Plan	43
3.	Change in Percentage Shares of Financial Allocations from 1389-90 to the Last Year of the Plan	44
4.	Responsibilities and Schedules for Cooperative Surveys	51
5.	Financial Allocations for the Central Department of Statistics	53
6.	Financial Allocations for the Public Works Department	60
7.	Financial Allocations for Mapping	62
8.	Financial Allocations for Administration	62
9.	Employed Persons 15 Years of Age and Over Classified by Type of Economic Activity and Region-1386	66
10.	The Labor Force by Major Sector of Activity and Regions	67
11.	Output of Educational Institutions by Completed Grade 1390/91 — End of Plan	68
12.	Students Abroad Graduating During Period of the Plan, Classified by Field of Specialization and Level	69
13.	Employees in the Private Sector Classified by Nature of Activity: 1386, 1390, and End of the Plan	75
14.	Estimated Manpower Requirements of the Private Sector Classified by Occupation Group and Industry: 1390 to End of Plan	76
15.	Estimated Manpower Requirements of the Private Sector Classified by Educational Attainment, Training or Experience, and Occupation Group: 1390 to End of Plan	77
16.	Employment in the Public Sector in Selected Years and by the End of the Plan	78
17.	Level of Employment of Cadre (Classified by Ministry or Department) and Non-Cadre Personnel at the End of the Plan	79
18.	Employees in Petromin and Associated Companies Classified by Occupation Group - 1389	80
19.	Estimates of Total Employed in 1386 and Total Manpower Demand in 1390 and End of Plan by Sectors and Industry	81
20.	Percentage Distribution of Persons Employed in 1386 and Total Demand in 1390 and End of Plan by Sector and Industries	81
21.	Summary of Manpower Requirements by Education, Training and Levels of Skill, 1390 to the End of Plan	85
22.	Total Supply and Demand for Manpower, 1390 and End of Plan	85
23.	Summary of Manpower Supply-Demand Situation by Education, Training, and Levels of Skill	89
24.	Total Student Enrollment, Elementary through Secondary	96
25.	Higher Education Enrollment	97
26.	Statistical Summary, Boys' and Girls' Education	122
27.	Statistical Summary, Higher Education	123
28.	Statistical Summary, Religious Education	123
29.	Statistical Summary, Special Programs for Education	123
30.	Financial Allocations for Education and Cultural Affairs	129
31.	Technical Sections Prior to and Post-Plan	130
32.	Financial Allocations for Vocational Training	133
33.	Statistical Summary, Public Information - Radio and Television	143
34.	Financial Allocations for Public Information - Radio and Television	144
35.	Number of Trainees Expected During the Plan by Specialization and Location of Training	153
36.	Financial Allocations for Health and Nutrition	157
37.	Financial Allocations for Proposed Social Welfare Programs	160
38.	Financial Allocations for Proposed Social Security Programs	163
39.	Financial Allocations for Proposed Community Development Programs	164
40.	Financial Allocations for Proposed Cooperative Programs	165
41.	Financial Allocations for Proposed Youth Development Programs	166
42.	Financial Allocations for Proposed Social Services Training Programs	166

* *Total in some tables are rounded to nearest decimal point.*

Table

43. Financial Allocations for Social Affaits 169
44. Financial Allocations for Labor Affairs 174
45. Financial Allocations for Electricity 181
46. Financial Allocations for Urban and Community Water 183
47. Financial Allocations for Municipalities 188
48. Financial Allocations for Roads 194
49. Financial Allocations for Ports and Railway 197
50. Financial Allocations for Saudi Arabian Airlines 200
51. Financial Allocations for Civil Aviation 202
52. Number of Telephone Installations 205
53. Financial Allocations for Telecommunications 209
54. Financial Allocations for Meteorology 211
55. Financial Allocations for Postal Services 212
56. Targets for the Contribution of the Industrial Subsectors to Value Added During the Last Year of the Plan 218
57. Forecast of Production for Domestic Demand and Consumption of Refinery Products 221
58. Further Investigation of Main Mineral Deposits and Prospects During the Plan Period 225
59. Some Projected Industries for the Plan Period 230
60. Financial Allocations for Industry 243
61. Petromin Projects Expenditures 244
62. Growth of the Agricultural Sector During the Development Plan 255
63. Estimated Present and Potential Returns for Selected Major Crops 258
64. Development Costs of Small Scale Private Irrigation Projects 263
65. Financial Allocations for Agriculture 267
66. Financial Allocations for Trade and Services 277

FIGURES

Figure		Page
1.	Gross Domestic Product and the Relative Contribution of the Oil Sector.	39
2.	Average Annual Growth Rates of Value Added By Sectors	41
3.	Plan for the Banking System in the Kingdom	47
4.	Topographic Mapping Areas	63
5.	Manpower Supply and Demand by Selected Occupation Group	83
6.	Available Manpower and Development Requirements	87
7.	Boys' Education: The Growth of Education at All Levels During the Plan Period	103
8.	Education: Growth in Numbers of Male and Female Graduates	107
9.	Boys' Teachers: All Levels	109
10.	Girls' Education: Growth in Enrollment	113
11.	Girls' Teachers: All Levels	117
12.	Number of Students at the End of the Plan Period	125
13.	Graduates from All Levels During the Plan Period	127
14.	Technical Sections Offered in Major Training Centers, Prior to and Post Plan	131
15.	Vocational Training Plan	135
16.	Output of Trained Workers During the Plan Period	137
17.	Information Plan	141
18.	Number of Doctors and Technicians	147
19.	Proportion of Saudis Employed as Doctors and Technicians	149
20.	Health Network	155
21.	Social Institutions	161
22.	Youth Welfare Centers	167
23.	Labor Offices	171
24.	Rural Electrification Program	179
25.	Projects of Municipalities	185
26.	Existing and Proposed Paved Roads	191
27.	Port Facilities	195
28.	Existing and Planned Automatic Telephone Exchanges	203
29.	Long Distance Telecommunications Network	207
30.	Contribution of Industry to Gross Domestic Product	215
31.	Geological Mapping Program	223
32.	Main Mineral Deposits in Saudi Arabia	227
33.	Industry in the Eastern Province	231
34.	Industry in the Central Province	233
35.	Industry in the Western Province	235
36.	Industry in the Southern Province	237
37.	Petromin Projects	247
38.	Domestic Production and Agricultural Imports	251
39.	Annual Production of Agricultural Products, Meat, and Poultry	253
40.	Wheat Production and Agricultural Subsidy Programs	259
41.	Components of Trade and Services — Relative Contribution of Trade and Services to G.D.P.	271
42.	The Growth of the Components of the Trade and Services Sector in Proportion to Gross Domestic Product	273

CHAPTER I

INTRODUCTION

The record of Saudi Arabia's economy over the past decade is an enviable one. The Kingdom has managed to achieve growth rates consistently higher than those in most other countries while at the same time maintaining a remarkable degree of stability and security. The Kingdom has pursued a policy of a balanced budget and has always maintained a sound balance of payments without placing restrictions on imports or remittances.

These improvements were managed during the same time the Kingdom was rapidly increasing its expenditures on economic and social development. Substantial progress was achieved in health and education, and in the nation's physical infrastructure. These gains have established a sound foundation for future growth.

The picture changed as a result of the Middle East crisis and its direct consequences. The most important of these were the declines in the rate of growth of GDP, the gold and foreign exchange holdings of SAMA, and the precentage increase in oil production.

In the two years following the crisis, additional burdens were placed on the economy in the form of increased defense undertakings for the Kingdom itself and payments to its sister countries. These resulted in an increase in the ratio of government expenditures to revenues. Consequently it was necessary to pursue policies that would keep the deficit under control while the decline in the percentage rate of growth and other economic parameters continued.

It is evident that these changes in trends would call for the pursuance of corrective policies designed to protect the advances made prior to the Middle East crisis. Probably, if not certainly, the most important of these policies is progress in accordance with a development plan that will deploy the available manpower and material resources where they can best be utilized.

Success in the implementation of the Plan depends upon:

1. Remaining within the defined limits of expenditures for Public Administration and Defense.
2. The oil companies' appreciation of the Kingdom's need for an exceptional financing capacity that dictates increasing their payments to the Government during the whole of the plan period.
3. The Government's seeking of new sources from which to increase its revenues by the amount required to finance the Plan. Specific recommendations have been made regarding this subject by ministerial committees formed for this purpose.

MAIN CHARACTERISTICS OF THE ECONOMY

The economy of Saudi Arabia today is dominated by four main characteristics: its dependence on oil; its commitment to a free economy; its manpower problems; and its rapid progress in all sectors over the last decade.

Dependence on oil is the obverse of the advantages derived from the abundance of oil. Rapid expansion of oil production has provided the Kingdom with both government revenues and foreign exchange to finance development. However, economic growth in Saudi Arabia has been primarily a product of this one sector rather than the substantial development of agriculture, mining, and manufacturing that is normally responsible for such growth. Moreover, it has led to the situation where further development of the economy over the coming decades is mainly dependent on growth in revenues and foreign exchange earnings from oil; a situation that must gradually be changed by diversifying production, exports, and sources of government revenue.

The commitment of Saudi Arabia to a free economy derives from the teachings of the nation's religious code and its long-standing social traditions. It is supported by growing evidence that economic and social change cannot be imposed on the country by the actions of the Government alone; but must come about through increasing participation of all elements of society in both the process of development and its benefits. Only by continuously encouraging private enterprise — large and small companies, family businesses, and individuals — to pursue those activities that they can undertake more effectively than government agencies, will the economy be able to benefit to the full from the ability and initiative of all its people.

Rapid growth has brought with it a growing demand for manpower at all levels. This demand has inevitably out-paced the supply. As a result large numbers of foreign personnel are employed in many important areas of the economy, particularly those requiring high levels of education and training.

Employment of foreign personnel provides only a partial solution to the manpower problems of the country. Throughout both the public and the private sectors the numbers of Saudi Arabian employees with levels of education and training high enough for the demands placed upon them by rapid development is relatively low.

Implementation of this Plan will depend, to a high degree, on success in raising the productivity of national and foreign employees throughout the economy - by more and better training, by higher standards of management, and by improving legal and administrative procedures affecting the conduct of public and private business.

The rapid progress that has been made in all sectors of the economy over the past decade has prepared the way for continued rapid growth; it has also brought with it the need to determine priorities for further development and to achieve better utilization of manpower and financial resources.

POTENTIAL FOR DEVELOPMENT

Saudi Arabia is well-endowed with material resources. Large reserves of petroleum and natural gas have already been discovered - proved reserves of petroleum are enough to sustain present production levels for over a century - and vast areas of sedimentary geological formations with potential for further discoveries remain to be explored.

The foreign exchange earnings of oil provide relatively unconstrained access to the foreign management skills, trained manpower, technology, raw materials, equipment, and machinery required for development; and to consumer goods not produced in Saudi Arabia.

Petroleum and natural gas also offer cheap sources of power for industry and transport, and are the principle raw materials used in the production of petrochemicals and nitrogenous fertilizers.

Both the Pre-Cambrian shield and the younger coastal rocks of western Saudi Arabia have been shown to have important mineral potentials and many mineral prospects have already been located.

Even in agriculture more resources exist than many had believed possible before area studies and resource inventories were undertaken. These have revealed:

1. Additional land resources which can be used for the increased output of crops, and
2. Subterranean water resources that can be exploited at varying costs for irrigation.

Moreover, on existing cultivated land, higher yields and the production of higher value crops are possible. There is also potential for increasing the productivity of range land.

Growth in per capita income, diversification and industrialization of the economy, and growth in service industries are creating expanding domestic demands for industrial and agricultural products which are now mainly supplied by imports. Growing world demand, particularly in the nearby markets of Africa and Asia, offers increasing opportunities for the export of petroleum products, petrochemicals and fertilizers, and mineral production.

This combination of abundant resources and growing domestic and foreign markets for industrial and agricultural production offers the prospect of continued rapid economic and social development and the opportunity for gradual diversification of the economy.

The rate at which this potential can be realized will depend to a large degree on manpower planning and development of human resources: this dependency means increasing the efficiency and effecting desirable changes in the occupational distribution of the labor force.

Educating and training people are essential elements to development in every sector. Perhaps even more importantly, they are extremely desirable development objectives in their own right.

PLAN OBJECTIVES

The general objectives of economic and social development policy for Saudi Arabia are to maintain its religious and moral values, and to raise the living standards and welfare of its people, while providing for national security and maintaining economic and social stability. These objectives will be achieved by:

1. Increasing the rate of growth of gross domestic product;
2. Developing human resources so that the several elements of society will be able to contribute more effectively to production and participate fully in the process of development; and
3. Diversifying sources of national income and reducing dependence on oil through increasing the share of other productive sectors in gross domestic product.

POLICIES, PROGRAMS AND PROJECTS

Government Policy and Organization

The government will continue to maintain an open and stable economy without exchange or import restrictions. Public expenditures will be financed mainly from current revenues. Foreign exchange reserves will be increased so that the ratio of free reserves to annual imports is at least 1.0 and preferably reaches 1.5.

Development of a strong, diversified, and viable bank sector will continue. In particular, an Industrial Bank will be established and an institution will be set up to finance housing and real estate development.

Private enterprise will be encouraged to increase its productivity and to participate as much as possible in the process of development. Informational and technical assistance will be expanded to help the private sector improve its efficiency.

An integrated program of administrative reform will be followed. Emphasis will be given to better utilization of qualified Saudi personnel, clearer definition of the functions of individuals and organizational units, and revision of regulations and procedures that may obstruct achievement of the objectives of the Plan.

The organization for undertaking public works will be reviewed to define the extent to which further centralization is desirable.

Programs for the development of mapping and topographic surveys will be implemented.

A comprehensive statistical program is planned, including a complete population census, and expansion and improvement of all statistical series.

The Central Planning Organization will be concerned initially with studies that must be undertaken before certain programs can be implemented, and with completing the national accounting framework for economic planning. It will subsequently concentrate on following up implementation of the Plan.

These programs and the underlying policies in combination will enhance the Government's capability to contribute more effectively to development. Continued improvements along the lines indicated will provide better information to decision-makers and better implementation of current and future plans.

Social Development

Economic development is not sought after for its own sake; its only purpose is to improve human welfare. One of the primary ways of accomplishing this is to translate the fruits of economic gain into social improvements. In this way, people benefit from and participate in development and become better equipped to contribute to this process themselves.

Manpower Resources and Development

Some of the factors which will continue to have an important effect on the rate of social and economic development are directly related to the need for increased efficiency and desirable changes in the occupational distribution of

the labor force. An economy initially based mainly on agriculture and commerce, and more recently on oil, is now attempting to diversify as quickly as existing constraints will permit, and manpower shortages have at times made it difficult to proceed as rapidly as desired.

In the plan for manpower, an assessment is made of human resource requirements in the light of the economic objectives adopted, likely future supply-demand relationships, and the policies and measures to be taken to overcome any indicated imbalances. These are essential aspects in formulating the overall Plan, and the evaluations made show that substantial efforts will be needed for several years before a general state of self-sufficiency in manpower may be approached, and that continued participation of foreign labor will be essential.

Such analyses are also of value in indicating the direction and nature of necessary structural changes in education and training programs, and provision has been made for the expansion of training schemes wherever feasible. This emphasis on improvement of the quality of the Saudi labor force will, in due course, lead to greater participation of all sections of the community in the benefits derived from development.

Partly as a result of the improvements likely to be induced by the Plan, the industrial composition of the labor force will experience some change. Agriculture will remain the largest single employer of labor, but will decline in relative importance, while several other industries, notably commerce, transportation, and services, will increase both relatively and absolutely. These changes will create several new opportunities for employment, and many of the policies to be implemented aim at facilitating this process.

The Government recognizes that manpower problems could not be completely solved during the period of the first Plan, due partly to the insufficiency of data on which future policies may be based. Nomadism, internal migration, and factors affecting occupational mobility, are only a few of the subjects requiring further investigation. A program of research to be executed during the planning period has been outlined, and arrangements will be made to have a continuous review of the manpower situation.

Education

The development plan for education looks to continued expansion of opportunities for education at all levels, from elementary through college, so that each level will have the capability of accepting all qualified graduates from subordinate levels who seek enrollment.

In planning for this expansion, attention has been given to strengthening educational institutions at all levels, with efforts concentrated on measures that will improve efficiency and produce excellence in the educational program.

The Plan provides for more diversification in educational offerings, once the student has completed his basic general education. Industrial education for boys at the secondary level is being expanded. Training in office skills and commercial subjects will be available at three new institutes. The Plan includes more advanced programs in teacher training for girls. Provisions for technical training in agriculture will also become available as the Plan nears completion.

Growth in student enrollment calls for more schools and more teachers. A school construction program is planned to add more government-owned buildings to the school system. In the short run, existing facilities will be utilized much more intensively. The teacher requirements of the Plan are very large. By expanding the teacher training programs for boys and for girls, it is planned to increase the annual output of primary teachers to the point where annual requirements for elementary teachers will be met by teacher training graduates. Until this point, however, contract personnel will be needed for a good number of the elementary teaching positions as well as most of the post-elementary teaching assignments.

The plans for higher education take into account the increasing number of students who will be completing secondary education. By the end of the plan period, enrollment in the University of Riyadh, the College of Petroleum and Minerals, the College of Education in Mecca, and King Abdul Aziz University in Jiddah is expected to reach 9,900 students as compared with the 1389-90 total of 3,800 students for these schools. In addition, the new Women's Teachers' College will have more than 900 students according to enrollment projections. The Plan provides for assisting all these institutions by adding new facilities and equipment, by cooperative arrangements with foreign specialists, and by grants.

Special programs for education include additional facilities for the instruction of the blind and the deaf and dumb. At the same time, an education program for the mentally retarded is to be initiated, with the opening of two institutes, one for boys and one for girls, in Riyadh. Expansion of the night school program for adults, to parallel the development of the intermediate and secondary school programs for boys, is included in the development plan for education.

Training for employment is also provided at the vocational centers of the Ministry of Labor and Social Affairs that prepare young adults in a wide range of trade subjects. Six new vocational centers are to be opened; these will be small centers with programs in basic skills. The Plan also includes a new program of pre-vocational training for youth to be undertaken with United Nations assistance.

The Plan emphasizes the need for promoting Islamic and Arabic studies in institutes and colleges that have been established for this purpose. The Plan provides further facilities for instruction in the existing institutes and colleges and establishes programs of advanced studies in both Arabic language and Sharia.

Health and Nutrition

The health plan will be undertaken in two phases. During the first phase, the first two years of the Plan, effort will be concentrated on improving services, sanitation, and supplies in existing hospitals, dispensaries, and health centers. This will be supplemented by making more effective use of existing doctors and technicians.

The Plan provides for initiating a program of preventive health care and education in health and nutrition.

The Riyadh Health Institute will be expanded to increase the supply of qualified technicians; also, training facilities and teaching standards in all training institutions will be improved. This will be accompanied by repairing and renovating existing structures, repairing or replacing existing equipment, adding new equipment, and by opening hospitals and health centers already constructed but not yet operational.

During this first phase, an intensive research and study effort will be undertaken to prepare for the second phase.

During the second phase, the remaining years of the Plan, one of the basic objectives will be to expand the program for preventive health care and education in health and nutrition.

Also, the capacity of institutions for training technicians will be enlarged. The work in up-grading the national network of hospitals and health centers will be accelerated. This will be accomplished by renovating more of the institutions that will be retained as part of the network and by constructing new ones where there are gaps.

The number of doctors employed by the Ministry of Health will be increased from 775 in 1390 to 1,200 by the end of the Plan, and the number of qualified technicians from 2,195 to 3,900. The proportions of Saudi doctors and technicians will be increased concurrently from 15 and 23 percent respectively in 1390 to 35 and 50 percent by the end of the Plan.

Finally, the research and studies necessary for the preparation of a scientific health plan will be completed. This plan will lead, in a decade, to dramatically improved health care throughout the Kingdom and greatly reduced morbidity and mortality.

Housing

A survey of existing housing conditions will be undertaken as a first step toward formulating housing policies and programs tailored to both the needs and financial capacity of different income groups. The survey will also determine how the private sector should be encouraged to undertake real estate development and housing construction.

The Plan provides for establishing an institution to mobilize finance for housing and real estate development, and for designing and constructing model residential communities in selected locations to demonstrate housing development suited to local needs and conditions.

Social Welfare

Institutional services for disadvantaged persons — the aged, orphans, foundlings, and juvenile offenders — are to be expanded. The organization of new private benevolent societies for participation in social welfare projects will also be encouraged.

Additional social security offices will be opened to assure that grant and pension benefits are equitably distributed, and steps will be taken to provide for more prompt payments. A social research office is to be established to develop information on living costs and conditions that can be used in the application of the social security program. The Plan also includes a program of assistance through training and small business projects to provide employment and self-support for persons who have been dependent on social security payments.

Within the existing community development centers, on-going programs are to be expanded and new programs that fill needs of the communities will be introduced.

The plan for expansion of the cooperative societies looks to the registration of 35 new multipurpose cooperative societies during the plan period. Concurrently, a program of annual conferences and training programs is planned for cooperative society board members and staff personnel who are responsible for the administration of cooperative affairs.

The youth development program includes the first stage of a plan that will provide communities with permanent centers for athletics and recreation. Emphasis in the program of financial support for clubs will shift toward encouraging clubs to develop capital projects such as playing fields, playgrounds, and the installation of game equipment. The overall program of youth development will look to incorporating or integrating youth development activities of other agencies wherever practicable.

Labor Affairs

The development plan for labor affairs is designed to meet requirements that have been specified or implied in the recently enacted labor and social insurance laws. These requirements include labor inspection, the application and enforcement of labor organization codes, settlement of labor cases, compliance with provisions for social services for workers, and safety regulations.

The Plan includes organizing a general department for labor inspection in the Ministry of Labor and Social Affairs and developing social services as provided in the new laws. The number of branch labor offices will be increased from 21 to 29 to cover the Kingdom more effectively. Employment service and inspection units are planned as elements of each branch labor office. The first-instance committee system, which the labor law prescribes as an instrument for acting on labor disputes at the local level, will be put into effect, and 16 committees will be established during the plan period.

The scope of the statistical surveys of the labor force and the employment levels within the Kingdom is to expanded — to cover employees in private establishments and foreign workers in the private sector. A sample survey of the total labor force will be carried out by the end of the plan period.

To prepare staff personnel for new assignments and to up-grade assigned personnel for broader responsibilities, a number of training programs will be conducted with the cooperation of the International Labor Organization.

Cultural Affairs

In providing for the cultural development of the Kingdom, the public library system is to be expanded and improved, with priority given to enlarging the book collections and periodical sections, and providing libraries with the necessary furniture and equipment. In view of the cultural importance of archaeological finds and the educational value of museums, the Plan proposes to expand the activities of the Ministry of Education in this area. An annual program of archaeological missions is planned for field surveys, site investigations, and site registrations. An acquisition and maintenance program has been designed to assure that buildings and landmarks of historical significance are not lost.

The development of radio and television as public information media will continue through the plan period. Attention will be focussed on the addition of necessary replacement or supporting equipment to raise the level of transmission quality and reliability. The television network is to be increased with the addition of three transmitters that will serve growing areas not now in the reception range of existing transmitters. Four high-quality medium wave radio transmitters are planned for locations in the north, south, east, and west border areas to provide local service and to improve the coverage of the neighboring Arab countries.

Physical Infrastructure

Economic development demands a physical infrastructure that supports both the producing and consuming sectors and that links them together. Postal services, telecommunications, roads, and utilities are vital ingredients for improving productivity and living standards. Attaining the Plan's objectives for infrastructure improvements is essential to attaining many of the Plan's objectives for other sectors.

Electricity

Continuing rapid expansion of the privately-owned electric utilities serving the urban areas of the Kingdom will be required. Total generating capacity added during the period will amount to 1.6 times the total installed at the present

time. This will improve existing service standards and help to eliminate the currently uneconomic practice of individual commercial, industrial, and governmental organizations providing their own generating systems even when central station service is available.

An organized effort will be made to provide electricity to reasonably accessible communities of over 2,000 population. Government's role will be to provide up to 75 percent of the capital required by interest-free, long-term loans. The remaining capital requirement would be provided by private local individuals.

A proposal to establish a regulatory body to supervise the operations of the Kingdom's electric utilities is now pending. The establishment of an Electric Service Organization will do much to provide the type of electrical service needed for the development of the Kingdom.

The standardization of voltage and frequency of the electric industry is a major program that will be undertaken during the plan period.

Urban and Community Water

Well drilling and the development of other sources of water for non-agricultural use will receive priority during the plan period. The construction of distribution systems will receive secondary emphasis.

During the initial period of the Plan, a study will be undertaken to determine the most economic means of meeting the potable water needs of the urbanized areas and communities of the Kingdom. Alternative sources of supply will be considered for each community.

User charges collection procedures will be improved by the Ministry of Interior. This will not only increase revenues but will also tend to discourage excessive use of water by consumers.

Municipal Facilities and Services

Sewage and waste disposal systems, storm water drainage, municipal buildings, slaughter houses, vegetable and meat markets, and other similar facilities will be provided during the plan period. It is proposed to pave, illuminate, and provide sidewalks for about 1,820 kilometers of streets in the Kingdom, complete sewage systems in Riyadh, Jiddah, Mecca, Medina and six smaller cities, and to complete storm water drainage facilities in six cities. Regional and urban planning will continue.

Roads and Road Transport

The program for road construction will continue at the current rate. The amount of roads constructed during the plan period, will total 4,312 kilometers. The study of the feeder road program will be completed and about 900 kilometers of these roads will be constructed by the end of the period. A program to bring maintenance standards up to an acceptable level will be undertaken. The adoption of a proposed system to limit and enforce load weights of trucks should help reduce the maintenance requirement for roads.

The Plan provides for an overall transportation study to consider all modes of transport. The findings of this study will be used as a framework for a program to integrate the development of roads, ports, airports, and railway facilities.

Ports and Railway

The construction programs now underway at Jiddah and Dammam, plus the additional expansion proposed for Dammam, will provide sufficient capacity at these two major ports for the remainder of this century. An expansion of Yanbu Port will be undertaken if economically feasible. Studies are now in progress to determine which other Red Sea minor ports should be developed during the plan period.

A study will be undertaken to consider proper rate levels for the Saudi National Railway Corporation in light of competition and potential markets. This should reduce the deficit between expenditures and revenues. The proposed transportation study will consider the long term role of the Railway in the Kingdom's transportation network.

Civil Aviation

The existing air traffic services such as air/ground communications, navigational and landing aids, search and rescue services, fire and rescue services, and air traffic control services will be improved. Airports will be improved as required. Fifteen airports will have jet aircraft capability by the end of the period.

Training will receive emphasis during the period. The output of the Department's two technical schools will double compared to the rate of the corresponding previous period.

Saudi Arabian Airlines

A major long term objective of the Airlines is to improve efficiency so that it can operate as a commercial entity and not require governmental assistance to meet the costs of operation and new equipment.

The Plan provides for extending jet service to seven new population centers during the period. Other programs to be undertaken include the improvement of in-flight service, innovations in employee relations, the adoption of modern data processing methods, and studies of rate structures and markets. An important study will be to determine the profit or loss attributable to each route. With this information, it is proposed that the Government's financial contribution to the Corporation's operations be related to (1) the financial loss to the Airlines resulting from serving routes at the Government's direction, and (2) the extraordinary costs of developing a national air carrier.

Meteorology

A major program of the Department will be to improve weather observation in the Kingdom by the addition of trained staff and surface and upper air observation stations. Facilities necessary to receive and utilize the vast amount of international information disseminated including cloud-cover pictures transmitted by satellite, will be installed. The administration of the 200 weather observation stations now within the Ministry of Agriculture and Water will be transferred to the Department.

Telecommunications

The automatic telephone system now being installed in the major cities will be expanded to include many of the small towns. It is expected that 137,000 telephones will be installed in the Kingdom by the end of the period with nearly all of these being automatic telephones. A firm is being employed to operate and manage the system.

The telegraph network will be expanded and improved, including teleprinter and photo-telegraph services.

An intra-Kingdom communications network will be partially in operation by the end of the period. International communications will be possible via coaxial cable with Kuwait, by microwave with Bahrain, and by satellite with the rest of the world.

Organizational improvements and training will receive emphasis.

Consideration will be given to the creation of an autonomous governmental body to operate the telecommunications system.

Postal Services

The general objective will be to improve the services rendered through the addition of personnel, emphasis on training, introduction of new equipment, and administrative change.

The Postal Service will be separated from the Telecommunications Department and its accounting and statistical sections will be moved from Mecca to Riyadh.

New buildings will be constructed at Riyadh, Jiddah and Dhahran. An expansion is also planned for Dammam. Twenty new post offices will be established in the communities of the Kingdom.

Industry (Mining, Manufacturing, and Construction)

The main objective of the plan for industry is to realize - as rapidly as organizational, manpower, technical, and financial constraints permit - the known high potential for industrial development, thereby making a major contribution to the growth and diversification of the economy.

The programs and projects to be undertaken during the plan period fall within the following areas:

1. Petroleum refining, that is, projects for refineries, bulk storage, and blending of lubricating oil,
2. Petrochemical and fertilizer industries,

3. Surveying, exploration, and exploitation of minerals,
4. Basic metal industries,
5. Manufacturing industries other than the ones mentioned above,
6. Construction industry.

Petromin will be provided with a formal capital structure and organization, and will establish an international trading and marketing company. This company will market internationally products produced by Petromin and its related enterprises.

Mining industry will be stimulated by review and revision, where necessary, of the mining code and foreign capital investment regulations, and by promotion of joint ventures on a cost-sharing basis with foreign mining companies. The establishment of a Saudi Mineral Exploration Company will be studied during the first year of the Plan. By the end of the Plan, all major decision making and operations will be transferred to the Directorate General of Mineral Resources, leaving contractors responsible only for specific activities.

Private manufacturing industry will be encouraged by publication of a statement of (1) National Industrial Policy outlining various forms of encouragement, and (2) an explicit pricing policy for petroleum products and natural gas to be used for domestic industrial consumption. In addition, the implementation of three industrial estates — one each in Riyadh, Jiddah, and Dammam — will be completed during the Plan.

The Industrial Studies and Development Center will carry out high priority feasibility studies, evaluate industrial opportunities, study the desirability of additional industrial estates, publish an investment guide, and provide extension services to the private sector.

An Industrial Bank will be established to assist in financing large and medium scale industry, and to provide subsidized credit for small scale industry.

To improve the productivity of the construction industry, the effects of labor legislation, land registration, and other influencing factors will be reviewed and appropriate measures will be formulated. Moreover, national building codes and materials specifications and standards will be established.

Agriculture

Objectives for the development plan for the agriculture sector include more efficiency, greater output, and sound distribution and use of resources.

The sectoral plan focuses on increasing agricultural output by about 27 percent during the period of the Plan, which corresponds to an increase of 4.9 percent annually. In addition, a base for further development will be built through an accumulation of experience in implementing and managing projects, and of knowledge about resources and how to use them.

Increases in yield of wheat and vegetables will be brought about through improved technology. Subsidy on fertilizer at 50 percent of its cost will increase fertilizer use, particularly on wheat where multiplication-demonstration teams will teach the technique of raising high yielding varieties of wheat. Farmers' returns from the new wheat will be kept at a profitable level, through price support if needed; possible marketing assistance for vegetables will also be studied.

Mechanization and modernization of farms, assisted by a subsidy program, will contribute to increases in production of forage and other crops. Livestock production increases, including 47 percent increase in meat production during the Plan (8 percent per year), will reflect larger forage supplies, resulting from better range management and from increases in alfalfa production. Better animal health and disease control will also be factors in the increase of livestock production.

Development of new lands and enlargement of existing farms by private entrepreneurs will be facilitated by the recent fallow land distribution law, and will be further encouraged by government technical assistance and grants.

The lending program of the Agricultural Bank will be quadrupled during the period of the Plan, and will facilitate land development, widespread adoption of fertilizer, new varieties of seed, and new machinery and methods.

Major publicly sponsored development and reclamation schemes already underway will be put into operation during the plan period. While no new major projects are proposed, continuing studies will assure that soundly conceived projects will be ready when resources become available.

Research to gain additional information about resource availability and possible use will be continued and analytical work will be expanded. The Plan includes provision for a comprehensive agricultural census to be completed by the last year.

Trade, Services, and the Hajj.

Trade and services are conducted by the private sector of the economy (public services, such as education and health, are dealt with separately). The Hajj involves a number of extremely diverse activities, part of which are performed by the private sector, and the remainder by a number of different governmental agencies — their roles in the Hajj are covered in their respective plans.

Trade and Services

The role of government in this sector is to improve its efficiency through informational and technical services, to promote fair practices, and to settle disputes. To address these needs, the Plan provides for creating a Planning Bureau in the Ministry of Commerce & Industry to establish planning as a continuing function and to coordinate associated work in other government agencies.

The Plan also provides for improving the informational and registration system. This will expand the data base and will be accompanied by more prompt dissemination of information gathered.

To meet the growing needs of the business community, practical training programs will be expanded and new ones established.

A continuing review of the tariff structure will be conducted to make it responsive to the needs of agricultural and industrial development.

The regulations governing foreign capital investments will be studied and modifications and supplements proposed to encourage more foreign investment under conditions that produce real economic benefits to Saudi Arabia by increasing the domestic product and employment, and by increasing exports or reducing imports.

The Plan provides for development of a uniform code of business practices and contract forms, and for more prompt settlement of disputes. Both consumers and producers will benefit by putting into effect and enforcing standards of measure and specifications and of hygiene in public facilities.

The Hajj

Over 400,000 foreign Muslims made the pilgrimage in 1389. These were augmented by an estimated 600,000 to 900,000 from in-country. This vast influx of people, during such a short period of time and concentrated in the Western Region, exerts heavy demands on a number of government agencies - The Ministry of Hajj and Waqfs, the Ministry of Interior, the Ministry of Health, the Ministry of Communications, Ministry of Foreign Affairs, Ministry of Defense and Aviation, and various municipal organizations.

The plan for the Hajj, therefore, consists of many parts of the plans of other government agencies. These plans are designed to improve the handling of administrative matters, to move, house, and feed the pilgrims more efficiently and to provide better services of every type, such as medical care.

FINANCIAL ALLOCATIONS

Total financial allocations for the Plan amount to SR 41.3 thousand million. This is a provisional figure covering the total estimated cost of the programs and projects described in the Plan. It will be revised from year to year in accordance with the following:

1. Revised estimates of the costs and timing of programs and projects that have been included in the Plan subject to further study;
2. Review of the costs of on-going programs to determine possible savings in program expenditures;
3. Review of difficulties expected to be encountered in implementing programs;
4. The rate of growth in production of oil and the revenues received from this source; and,
5. Progress with increasing revenues from other sources.

Chapter III reviews the detailed distribution of these allocations among the sectors. This distribution reflects the Plan objectives of growth in gross domestic product, development of human resources, and diversification of the economy.

CHAPTER II

THE PROJECTED GROWTH OF THE NATIONAL ECONOMY

During the last ten years, Saudi Arabia was the scene of rapid economic and social changes, and of progress on all fronts. Because there were so many projects to be implemented simultaneously, almost everything done yielded some benefits. The salient features of this dynamic evolution have been: the extremely rapid growth in national income, one of the highest growth rates in the world; rapid urbanization; improved interchange and mobility among the people through better communications, roads, and air services; and enhanced international stature and prestige.

As in most instances of such rapid progress, there were growing pains. While these natural problems might have proved self-correcting, given time, they were greatly exacerbated by the Mid-East conflict in 1967 and its lingering consequences. These factors, in combination, emphasize that development policies should be pursued to safeguard the Kingdom of Arabia against sudden crises.

A study has been made of the 11 major sectors into which are grouped all the activities that generate goods and services and which, in the aggregate, produce the Kingdom's Gross Domestic Product (GDP).

The following sections of this chapter discuss the historical trends of each sector separately and the role of each in the national economy, the rational underlying each individual projected rate of growth, and the conclusions reached.

SUMMARY OF RECENT TRENDS

As for any economy, projections of the Kingdom's economic growth are based on historical trends combined with potential changes resulting from deliberate policies and the operation of natural economic and social forces.

Historical trends are, of course, only a part of projections. It is essential to understand the institutional framework, the external forces impinging on internal economic development, and the peculiarities of the economic interrelationships within a country.

In Saudi Arabia, the principle factors to consider are:

1. Estimates of future oil production and revenues,
2. Government policies as reflected by planned expenditures for social and economic development, and
3. Structural changes in the interrelationships among the various producing sectors of the economy.

It is also necessary to take into account the fact that foreign trade is of much greater economic significance in Saudi Arabia than in any other country of comparable size and wealth. Historically, over 85 percent of the Government's revenues have been derived from oil and are, thus, automatically in the form of foreign exchange earnings — a distinct advantage over most developing nations. However, Saudi Arabia's dependence on imports of goods and services is also relatively extreme — marginal propensity to import has averaged 30 percent in recent years. Further, these heavy imports are due to an extreme dependence on foreign sources for food and other basic necessities, and for the machinery and materials required to develop the nation's physical infrastructure and to modernize the economy.

Until the June War, these import requirements were well within the economy's capability. In fact, SAMA holdings, in the form of gold and foreign exchange, increased from SR 1,280 million at mid-1382 to SR 3,836 million at mid-1387. Though imports were increasing at a faster rate (16.8 percent*) than exports (11.6 percent*), because the export base was larger, the absolute difference** actually increased from SR 3,610.9 million in 1382-83 to SR 5,195.6 million in 1386-87.

During this same period (1382-83 to 1386-87), Gross Domestic Product — in constant prices — grew at an average annual compound rate of 10.5 percent. Further, government revenues during the period exceeded spending. In brief, the economy was moving ahead on all fronts.

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* *Current prices.*
** *Foreign trade balance on commodities only.*

The picture changed as a result of the Middle East crisis and its direct consequences. The most important of these were the declines in the rate of growth of GDP, the gold and foreign exchange holdings of SAMA, and the percentage increase in oil production.

During the subsequent two years, the unfavorable impact generated by these dramatic shifts was supplemented by increased burdens on the economy, primarily in the form of further defense commitments for the Kingdom itself and payments to its sister countries. Further, total government expenditures rose more rapidly than revenues.

These changes in trends made it necessary to pursue policies that would keep the deficit under control as the decline in the percentage rate of growth and other economic parameters continued. It is evident that such changes would call for the pursuance of corrective policies designed to protect the advances made prior to the Middle East crisis. Probably, if not certainly, the most important of these policies is progress in accordance with a development plan that will deploy human and physical resources where they can best be utilized.

SECTORAL ANALYSES

The "Economic Report of 1387-1388" and the "Guidelines for the Development Plan" were prepared in 1389 Since then, it has been possible to add data on the Kingdom's GDP for two more years. Further, the depth of detail about the individual sectors has been expanded. This has increased confidence in the reliability of certain of the statistical data and has made it possible to refine the techniques employed in estimating the value added in most sectors and in projecting their future growth. Continued work in improving historical and current data will retain the highest priority since such data are the foundation for making projections and, thus, for planning.

The Oil Sector

The key to the economy of Saudi Arabia now, during the coming decade, and probably for many future years, is oil*.

Production of Crude Oil

In 1966, the year prior to the June War, oil production increased by 18.0 percent. This rate of increase fell to 7.8 percent in 1967; it was 8.8 percent in 1968 and only 5.3 percent in 1969. (The pattern and actual numbers are somewhat different on a Hijra year basis because the method of calculation introduces a smoothing effect.)

Petroleum Refining

Changes in the quantity of petroleum refined correspond closely to changes in the production of crude oil. A historical comparison of the two in terms of their relative contributions to GDP show the following:

RELATIVE SHARES OF GROSS DOMESTIC PRODUCT
(Percent in current prices)

	1382-83	1383-84	1384-85	1385-86	1386-87	1387-88	1388-89
Production of Crude Oil, %	47.1	44.2	44.0	46.3	46.3	46.8	46.6
Petroleum Refining, %	6.1	6.4	6.4	5.9	5.6	6.0	6.1
Total	**53.2**	**50.6**	**50.4**	**52.2**	**51.9**	**52.8**	**52.7**

Summary

In making projections for crude oil production and refining, it must be recognized that there are many uncertainties about future production and prices because of factors beyond Saudi Arabia's control.

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* *In addition to the production of crude oil, there are several other GDP sectors directly affected — petroleum refining, transportation (Tapline), construction, and trade and services. For discussion purposes herein, petroleum refining is combined with crude oil production — their pattern of behaviour is similar. Since Tapline is currently shut down (except for the deliveries to Jordan), it has been omitted from the projections. The oil companies' contributions to the construction, and trade and services sectors are treated as part of those sectors.*

During the period of the Plan, an average annual rate of increase of 9 percent is projected for both production and refining. This rate of increase will probably be exceeded substantially this year due to a recovery from the very low increase in 1969. This increase (after conversion to Hijra years) would result in the following:

	1388-89	1389-90	1390-91	1391-92	Thereafter.
Rate of annual increase, %	6.1	11.0	9.5	9.0	9.0

For Petroleum refining, it is assumed that the changes will be fairly similar as follows:

	1388-89	1389-90	1390-91	1391-92	Thereafter.
Petroleum Refining, %	10.2	10.7	9.8	9.0	9.0

As mentioned above, many factors could dramatically affect these projections, but the rates are certainly within the realm of feasibility. If these targets are not achieved, growth in the other sectors will be adversely affected. If the targets are exceeded, development can be accelerated accordingly.

Agriculture

The most important sector in terms of the number of people involved is agriculture. Success in agricultural development is essential to real improvements in the way the majority of people live. Significant improvements in agriculture would also benefit other sections of the population by:

1. Lower prices of agricultural products.
2. Provision of fresh fruits and vegetables.
3. Provision of more varied diet.
4. Reduction of foreign exchange drain.
5. Serving as a base for agroindustry development.

In making projections for this sector, the record is not particularly useful except for the past two years, due to a severe drouth in the prior years. In value-added terms, the computed percentage increase in agriculture is as follows:

Actual		Estimated
1387-88	1388-89	1389-90
4.1%	3.0%	4.0%

While these rates are lower than those estimated for other sectors, they are not low for agriculture. In fact, a sustained growth rate of four percent in agriculture would place Saudi Arabia among the world's leaders in this respect. The Government has devoted considerable resources to agricultural development and much of this is only now starting to pay off. Continued programs of education and training, improvements in seeds and fertilizers, shifts to higher value crops, increases in cultivated area, and more irrigation should lead to a progressive rate of increase. Therefore, the projections for increases in value added for agriculture are assumed to have the following pattern:

1389-90	1390-91	1391-92	1392-93	
4.0%	4.2%	4.4%	4.6%	and so on

This pattern cannot, of course, continue indefinitely; however, it should be possible to attain a level of some five percent during the coming decade and to maintain that level. An annual rate of increase of 5 percent would double the country's agricultural output every 14 years.

Mining and Quarrying (excluding petroleum)

Currently, most of the activity in this sector consists of quarrying — primarily building stone of various types — but significant quantities of gypsum, clay, and lime are extracted. The mining of iron ore is still insignificant. For this reason, the rate of growth in this sector is assumed to correspond closely to that in the construction sector.

Historically, this has been the smallest sector in GDP and will probably remain so, at least for the next five to ten years. There are, however, many possibilities that may prove to be commercially feasible for future exploitation: phosphate, iron ore, copper, gold, silver, zinc, lead and other ores.

The Plan envisages that one or more of these opportunities will be realized by 1393-94 and that the rate of growth in this sector will increase substantially in that year and grow rapidly from then on.

Manufacturing

Manufacturing (excluding petroleum refining) is still in its infancy in Saudi Arabia. While there are some 30 classes of products manufactured in the Kingdom, there is as yet nothing approaching an industrial complex. Manufacturing's share of GDP averaged just under two percent during the period 1382-83 to 1388-89; however, it was growing faster than GDP as a whole and the trend is expected to continue.

It is estimated that manufacturing has increased at an average annual rate of 11.3 percent from 1382-83 to 1388-89, and averaged 12.1 percent during the last 3 years of that period. Still further increases should be expected as a result of past and current studies of investment opportunities in this sector.

In addition to development of new industries, established firms will continue to improve and expand. Moreover, continued expansion of education and training programs will sustain increasing growth rates by alleviating the severe constraint imposed by the shortage of skilled manpower.

Further, there are opportunities for large scale petrochemical industries; for utilizing more of the capacity of the steel mill and expanding its capacity; and for other industries, if suitable deposites of metals or minerals are discovered and exploited. Because manufacturing's contribution to GDP is still relatively small (SR 299 million in 1388-89), implementation of large scale enterprises on the order contemplated by Petromin would have a dramatic impact.

It is anticipated that growth during the plan period will average about 14 percent. This would mean an increase in manufacturing's contribution to GDP from 1.9 percent in 1388-89 to approximately 2.7 percent in the last year of the Plan — a gain of over 40 percent.

Construction

The contribution of construction to growth in other sectors is obvious. It is also economically important because it is the primary user of domestically available resources, both physical and human. Many construction activities do not require previous training and skills, yet performing the required tasks involves a learning process that usually leads to increased competence and the acquisition of knowledge and supplementary skills.

For the period 1382-83 to 1388-89, the growth in value added for construction averaged 12.1 percent per year. However, during the last three years of that period this average dropped due to leveling off of construction connected with the oil industry, completion of SAFCO, and a much smaller increase than usual in construction for government projects.

In making future projections, estimates were made for the six major components comprising total construction. These estimates were based on construction requirements in connection with continued increases in oil production and refining, new Petromin projects and other industry, additional housing, expansion of utilities, and increased spending on government projects. These estimates also consider that construction must occur before some activities start to yield additional output.

Based on requirements as evidenced by growth in these areas, a composite rate of growth was derived for construction as a whole. The average annual growth rate for the plan period for this sector as a whole is 10.4 percent, and it is expected to be 11.7 percent at the end of the Plan.

Electricity, Gas, Water, and Sanitary Services

In all developing nations, the shortage of adequate utilities is a common characteristic. It is almost impossible to do enough soon enough. Their importance to individual welfare is manifest but they are equally crucial to industry.

Public utilities and manufacturing are the prime beneficiaries of economies of scale. Once a utility network (powerline, water main, gas main, or sewer) is constructed, more users can be added at little increase in costs. This obvious gain from increased use of existing facilities, however, does not mean new utility networks should be established indiscriminately simply because they are desirable. The heavy capital costs require that a substantial demand exists.

There are also important external economies associated with this sector. Once a utility network is established, the area usually attracts new industries or housing developments.

It is not surprising to note that, from 1382-83 to 1388-89, this was the fastest growing sector in the economy — an average annual rate of increase of 15.6 percent.

In constructing future projections, each major part of the sector was treated separately. The growth rates projected for each are a reflection of utility company plans, government programs, and increased per capita consumption. The average annual rate of increase projected for the whole sector is 13.2 percent and for the end of the Plan is 14.3 percent.

Transportation, Communications, and Storage

Basically, this sector consists of transportation and communications. (The contribution to GDP from storage in the Kingdom is still negligible). It is this sector that links the people of the country into an entity and makes possible the interchange of goods and services.

Transportation and communications accounted for 7.4 percent of the nation's GDP in 1388-89. The only significantly larger sector was crude oil production. The public administration and defense sector was slightly larger and trade was the same size.

The four major components in this area are: Tapline; airlines, railways, shipping; posts, telegraph and telephone; and mechanized road transport. No projections are included for Tapline as it is currently closed; however, at its peak Tapline accounted for only some five percent of the sector's total. If Tapline is reopened, the projections should be revised upward slightly.

The airlines, railways, and shipping component is projected to increase at a constant rate. There is no provision for any dramatic change over the next several years with respect to value added.

Mechanized road transport accounts for 85 percent of the value added the first year of the Plan and is projected to increase during the plan period at the same rate as in the past 4 years.

Posts, telegraph and telephone has fluctuated widely over the past six years, but government programs in this area will produce a progressive rate of increase throughout the plan.

The treatment described above yields an average annual rate of increase of 12.9 percent for the sector as a whole during the plan period, and reaches 13.2 percent the last year of the Plan.

Wholesale and Retail Trade

Economic development means — and depends on — specialization. By making possible the interchange of goods, trade permits the producing elements of the economy to achieve their respective comparative advantages.

Trade not only grows in its own right but it is the means whereby the output of agriculture and industry is marketed, and the means by which the economy's growing demands are satisfied. It should be kept in mind that value added is always only one measure of this sector's contribution to the economy. Increases in efficiency in the trade sector directly produce important benefits elsewhere.

As mentioned above, this sector has one of the highest growth rates in the economy: over the past 6 years, the average annual rate was 12.8 percent. In size it is almost identical to transportation and communications: 7.4 percent of GDP. It accounts for over 24 percent of the private (non-oil) portion of GDP.

In constructing projections for this sector, a constant rate of increase of 12.8 percent is used. Though this rate is almost 40 percent higher than that for the economy as a whole, it may prove conservative; however, any normal deviation between the projected rate and actual experience will not affect the Plan.

Insofar as trade is concerned, the role of Government is basically to assist the sector to become more efficient, promote fair practices, and settle disputes.

Banking, Insurance, and Real Estate

The fact that this sector has grown more rapidly over the past years than the economy as a whole is evidence of development and increased monetization of the economy. While insurance and real estate are still quite minor, they are growing.

The key component — banking — is essential in facilitating exchange, in providing for the storing of monetary wealth, transferring funds, and in providing credit.

For reasons of lack of information the value added in this sector was approximated. Based on the historical estimates, the projections assume that future growth will occur at the same average rate — 11.0 percent — more than 10 percent higher than that for the economy as a whole.

Ownership of Dwellings

This sector measures the value added of owner-occupied and tenant-occupied dwellings. It includes villas, apartments, traditional mud-houses, and tents. Its value is the contribution to people's welfare; people who are well housed are more productive. Growth of this sector is two dimensional: first, the number of units can be increased, and second, the quality of the units can be improved. The growth rate in this sector has been relatively low, hence the Government should give it special attention.

The reasons for the low growth rate are clear. The base was relatively large prior to 1382-83 which overshadows the limited growth that has been achieved. Immigration from rural areas to cities in recent years has not been accompanied by a corresponding increase in housing available in these cities. The growing need for housing to accomodate an expanding and increasing urban population must be kept in mind and in particular the need for low-cost housing. It is less costly to face this problem at an early stage than to try to cure the problem when it has become more burdensome.

The projected growth rate for the first year of the Plan is based on the average annual rate for the last two years (1387-88 and 1388-89); however, this rate is gradually increased over the plan period due to the Government's increasing participation and assistance in this important area of human welfare. It is expected that the average growth rate of this sector will reach 8.6 percent.

Public Administration and Defense

This sector covers the services of the central government (including defense) and of the municipalities. Excluded (all or in part) are:

Government Agency	GDP Sector to which allocated
Ministry of Health	— Health
Ministry of Education	— Education
Ministry of Communications	— Transportation, Storage, and Communications (PTT)
Ministry of Information	— Other Services
Ministry of Hajj and Waqfs	— Other Services
Municipalities	— Electricity, Gas, Water and Sanitary Services.

In this sector, as in all public sectors, value added is not a real measure of the value produced nor usually even of the total costs incurred. Expenditures by a government agency may double, triple, or increase ten-fold, with little or no effect on value added. For example, large-scale imports of machinery or material would increase costs tremendously but would not affect value added.

Because of demands for resources for development programs, projections for this sector are based on an average annual growth rate of five percent. While this is lower than for any other sector except agriculture, it is still rapid enough to double the size of the sector every 14 years. In addition, the government services included in other sectors, as noted above, will grow at significantly higher rates, so that government services as a whole will be growing about as rapidly as the overall economy.

Health

The health sector shows very little growth over the period 1382-83 to 1388-89—an average growth of 5.8 percent annually.

Since most of the value added in this sector is created by government services and facilities, the improvements demanded must be met primarily by public programs.

This is one sector where the manpower constraint is clearly more important than the financial one. For this reason, the Plan provides for a modest increase of 9.2 percent the first year and allows for progressive increases in this rate. By the last year of the Plan, the annual rate of increase is 9.9 percent.

Education

In Saudi Arabia, the inadequacy of the labor force with respect to education and commercial and technical skill is frequently more of a constraint on rapid development than is financial capability. Further, continued growth and diversification will lead to ever-increasing demands for manpower skills of every type. The key to meeting these growing demands is education. While people can be taught skills without being educated, educated people can be taught more things and more easily.

More importantly, human welfare is what development is all about. And education is the means by which people enhance their capability to contribute to development, to participate in it, and, to appreciate the significance of both these roles.

To meet this need, the Plan includes provisions for rapid expansion of the Kingdom's educational programs on all fronts and on all levels. Not only should the opportunity for elementary education be made available for everyone but those who qualify should be able to move on to ever higher levels. In value added terms, the expansion of the Kingdom's educational system increases at an average annual rate of 19 percent over the plan period, with the rate of increase being somewhat higher in the first few years and lower in the last years.

Further reductions in the rate of growth in the future can probably also be made, but this is contingent on a substantial effort over the next several years.

Other Services

This sector has been growing slightly slower than the overall economy (an average rate of 8.2 percent vis-a-vis 9.5 percent for GDP); however, it is expected that growth in this sector will accelerate throughout the plan period.

In projecting growth of this sector no allowance was made for any increase in the component contributed by the oil companies.

The government services included herein consist of religious services and radio and TV broadcasting. In combination, these sectors are projected to grow at an average annual rate of 7.8 percent.

The largest component of this sector consists of services rendered by private establishments and domestic services. This component is expected to grow faster than the economy as a whole and at an increasing rate. Increased development and urbanization will create an ever-growing demand for specialization and reliance on others for their particular skills.

By the final year of the Plan, annual growth in this sector is estimated at 10.8 percent, and this rate is expected to continue to grow into the future.

GROSS DOMESTIC PRODUCT — SUMMARY AND CONCLUSIONS

The projected GDP for each year is, of course, simply the result of adding the projections made of the behavior of the individual sectors. Before summarizing these results, certain observations are in order.

The individual plans in combination provide for orderly progress with special emphasis on bottleneck areas, such as manpower. The Plan is designed to exploit the Kingdom's natural resources and to involve its people in some capacity or another in the nation's progress.

The planned expansion in industry and agriculture will not only produce employment and rising incomes, but also will lead to both decreasing reliance on imports and possibly earnings from exports. For example, if agricultural imports could be held to their present level, while amounting to better than five percent of GDP in the previous decade, this dependence could be reduced to three or even two percent.

Expansion of the construction, manufacturing, and trade and services sectors will all provide new opportunities for employment and higher living standards.

Developments in transportation and communications, in utilities, and in housing will improve individual living standards and offer new advantages to industry and trade.

Elevation of educational and health standards will yield an evergrowing base for future development in the form of a stronger, more knowledgeable people.

During the first year of the Plan, GDP is projected to increase by 9.6 percent (Fig. 1 shows the absolute increase); this gain is mainly due to the influence of oil. Thereafter, however, though the projected annual increase in oil is a constant 9.0 percent, total GDP grows faster, reaching an annual rate of 10.0 percent in the last year of the Plan. The sectoral projections for the plan period and the actual growth rates from 1385-86 to 1388-89 are presented in Table 1. (See Fig. 2).

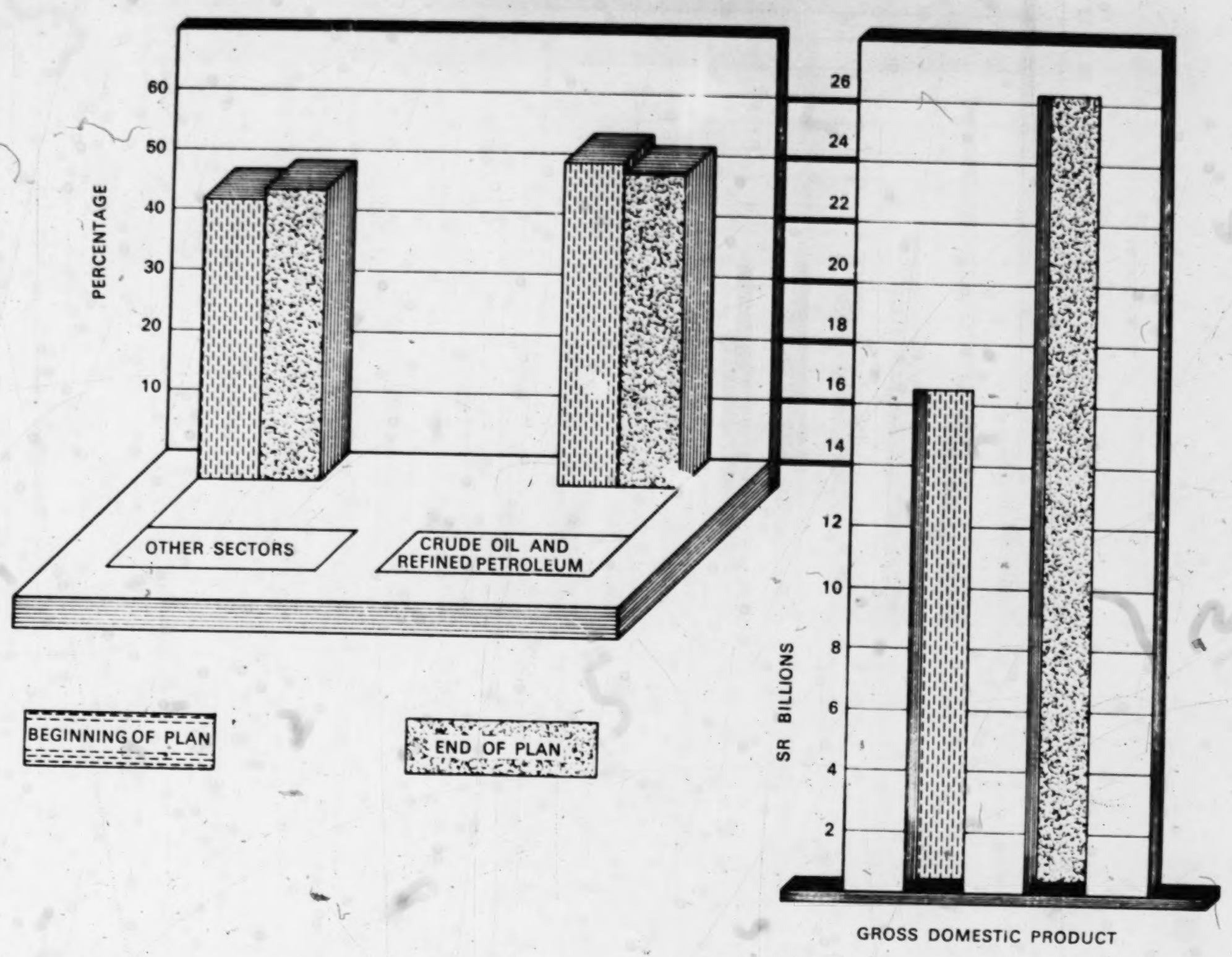
TABLE 1

AVERAGE ANNUAL GROWTH RATES OF VALUE ADDED BY SECTOR AND GROSS DOMESTIC PRODUCT
(Constant Prices)

SECTOR	Average Growth Rates for 1385/86 to 88/89 (Percent)	Average Growth Rates for the Plan Period (Percent)
Agriculture	1.7	4.6
Crude Oil & Natural Gas	8.2	9.1
Mining and Quarrying	6.4	23.3
Petroleum Refining	11.7	9.1
Manufacturing	12.1	14.0
Construction	4.2	10.4
Electricity, Gas, Water, and Sanitation	12.1	13.2
Transportation, Communications & Storage	11.1	12.9
Wholesale & Retail Trade	10.3	12.8
Banking, Insurance and Real Estate	10.7	11.0
Ownerships of Dwellings	7.0	8.6
Public Administration and Defense	5.4	5.0
Education	7.2	19.0
Health	2.4	9.5
Other Services	8.1	10.0
GROSS DOMESTIC PRODUCT	**7.9**	**9.8**

Fig. 1

GROSS DOMESTIC PRODUCT AND THE RELATIVE CONTRIBUTION OF THE OIL SECTOR



AVERAGE ANNUAL GROWTH RATES OF VALUE ADDED BY SECTORS

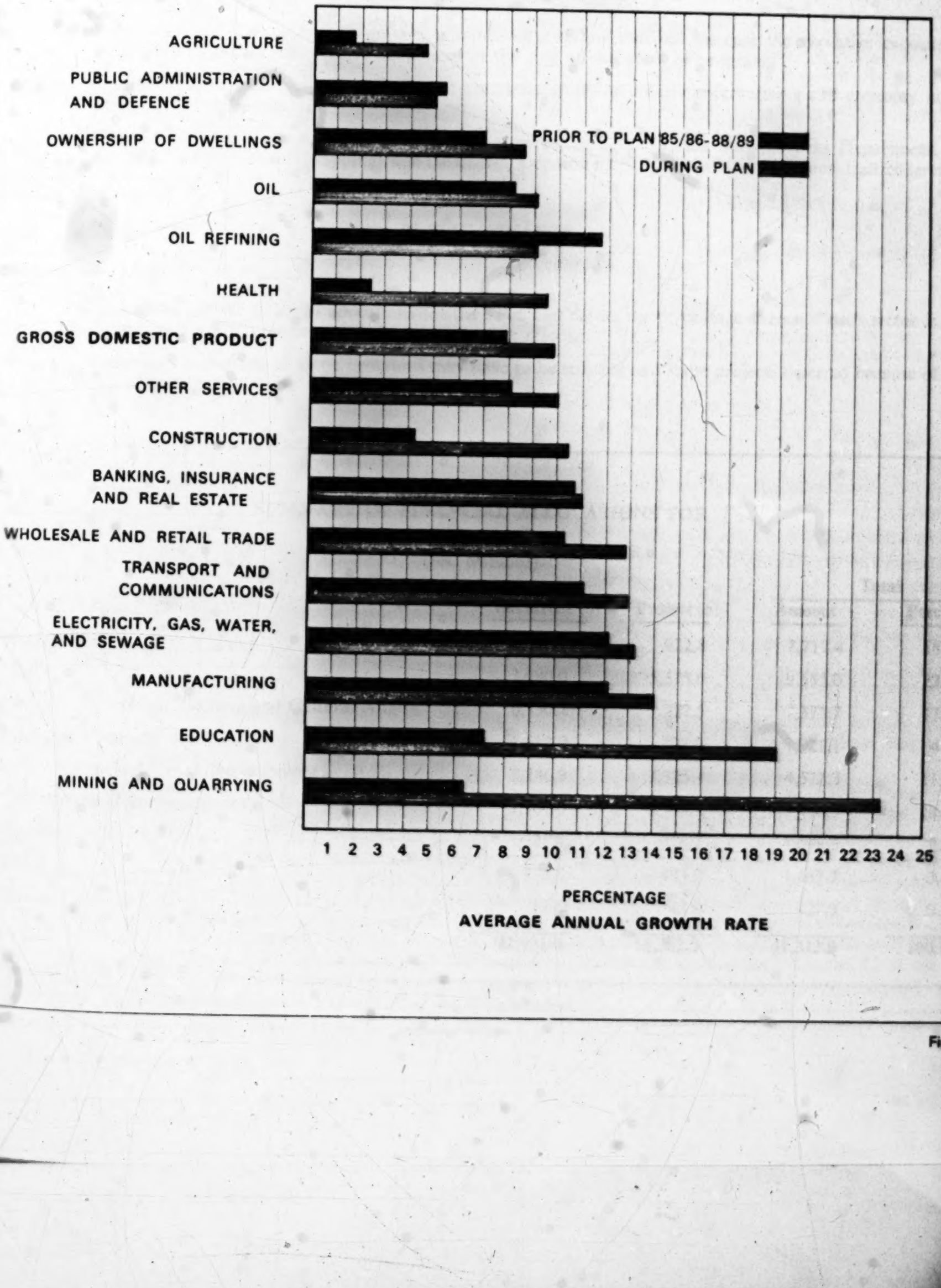


Fig. 2

CHAPTER III

GOVERNMENT POLICY AND ORGANIZATION

Achievement of the targets for growth presented in the previous chapter will require:

1. Fiscal and monetary policies oriented towards financing development under conditions of monetary stability.
2. Encouragement of private enterprise to share in the burden of financing development operations and implementing programs.
3. Implementation of a rigorous program of administrative reform that will increase the executive capacity of government agencies and achieve economies in the cost of execution of programs.
4. Undertaking the planning and research that are prerequisites to orderly programming and economy in the utilization of resources.
5. Effective support of development programs by agencies, in particular the Public Works Department, the Aerial Survey Depatment (Mapping), and the Central Department of Statistics, that provide centralized services.

PUBLIC FINANCE

Financial Allocations for the Plan

Table 2 summarizes the financial allocations for the Plan, and shows the percentage shares of each sector in the total. These allocations are subject to review for the following reasons:

1. The rate of expansion of some programs may have to be reduced and some projects deferred because of the annual budgetary constraint.

TABLE 2
SUMMARY OF FINANCIAL ALLOCATIONS FOR THE PLAN
(SR Millions)

	Recurrent (*a*)	Project (*b*)	Total Amount	Total Percent
Administration	6,794.6	922.8	7,717.4	18.6
Defense	3,980.0	5,575.0	9,555.0	23.1
Education, Vocational Training and Cultural Affairs	6,150.2	1,227.5	7,377.7	17.8
Health and Social Affairs	1,612.9	308.2	1,921.1	4.7
Public Utilities and Urban Development	1,246.9	3,325.4	4,572.3	11.1
Transport and Communications	1,767.3	5,709.2	7,476.5	18.1
Industry	321.8	776.7	1,098.5	2.7
Agriculture	973.8	493.9	1,467.7	3.6
Trade and Services	83.5	43.8	127.3	0.3
Total	**22,931.0**	**18,382.5**	**41,313.5**	**100.0**

(*a*) *Covers expenditures under Chapters I, II and III of the annual budget.*
(*b*) *Covers expenditures under Chapter IV of the annual budget.*

2. The allocations for some programs and projects are contingent upon the completion of further studies.

Total allocations for the Plan amount to SR 41.3 thousand million. Expenditures are expected to fall short of this total because of time-lags in the implementation of projects and difficulties in recruiting qualified personnel.

Allocations for Administration are projected to increase at an average annual rate of 5 percent for the period of the Plan. They account for 18.6 percent of total allocations.

Allocations for Defense are expected to decline, in the second year of the Plan, from the existing level of 31 percent of revenues, to 25 percent of the budget in the second and remaining years of the Plan. They represent 23.1 percent of total allocations.

Allocations for social development (Education, Vocational Training, Cultural Affairs, Health, and Social Affairs) together account for 22.5 percent of total allocations.

Allocations for physical infrastructure (Public Utilities, Urban Development, Transport and Communications) represent 29.2 percent of total allocations.

Allocations for Industry, Agriculture, and Trade and Services account for 6.6 percent of the total.

Table 3 shows the change in percentage shares of Financial Allocations from 1389-90 to the last year of the Plan.

TABLE 3

CHANGE IN PERCENTAGE SHARES OF FINANCIAL ALLOCATIONS FROM 1389-90 TO THE LAST YEAR OF THE PLAN

	Percentage share 1389-90	Percentage share Last year of Plan
Administration	22.3	18.3
Defense	30.7	21.3
Education, Vocational Training. and Cultural Affairs	12.0	21.7
Health and Social Affairs	4.4	5.0
Public Utilities and Urban Development	9.7	10.9
Transport and Communications	15.7	16.0
Industry	1.4	2.7
Agriculture	3.6	3.8
Trade and Services	0.2	0.3
Total	100.0	100.0

A large increase can be seen in the share of allocations for Education, Vocational Training and Cultural Affairs, an almost twofold increase in the share of Industry, and small increases in the shares of the other economic sectors.

MONEY AND BANKING

"The banking system continues to expand at a fairly rapid pace. Total deposits of the commercial banks expanded by SR 125 million or over 10 percent during 1387/88 to stand at SR 1,361 million. The most pronounced increase was in time and savings deposits which expanded by 47 percent during the year to stand at SR 350 million and now account for over 25 percent of total deposits. The sharp increase in time and saving deposits indicates the public's responsiveness to increased banking facilities and also highlights the role of the banking system in mobilizing domestic savings in countries like Saudi Arabia which do not have developed capital markets. Over the last five years, total deposits of commercial banks have almost doubled from SR 685 million at mid-1383 to SR 1,361 million at mid-1388 showing a growth rate of about 15 percent. Time and savings deposits expanded at a remarkably high rate of 40 percent per annum during this period rising more than five-fold from SR 67 million at mid-1383 to SR 350 million at mid-1388".*

* *Saudi Arabian Monetary Agency, "Annual Report, 1387-88" pp 17-18.*

Objectives and Targets

The objectives for the money and banking sector are to:

1. Maintain an open and stable economy without exchange or import restrictions.
2. Reformulate fiscal policy so as to maintain a foreign reserve that is equal to the value of imports for one and a half years and under no circumstances is less than the value of imports for one year.
3. Continue development of a strong, diversified and viable banking sector that will encourage a high rate of economic growth without adverse inflationary effects.
4. Ensure majority Saudi ownership of most banks in the Kingdom.

Specific targets for the sector are to:

1. Establish during the first year of the Plan an Industrial Bank to extend credit to large and medium scale enterprises on a normal commercial basis, and to make subsidized credit available to small scale enterprises.
2. Increase the capital of the Agricultural Bank each year in accordance with the credit requirements of the plan for agriculture.
3. Initiate studies and implement the conclusions of studies on:
   a. Means of financing housing and real estate development.
   b. The need for establishing a bank to serve people of limited income.
4. Encourage the national banks to open branches in at least six smaller towns now without banking services and to increase the numbers of their offices in the major towns. (See Fig. 3)
5. Allow credit to grow in accordance with the requirements of development.
6. Stimulate savings and mobilize funds for investment by such measures as encouraging the use of checks in the payment of salaries and asking quasi-government commercial organizations to maintain their balances with local banks.
7. Improve national bank operations by providing technical assistance and training.
8. Improve the statistical reporting by commercial banks.
9. Promote the expansion of warehousing facilities in the major trading centers where goods can be held as security against bank advances.

The financial requirements of the Industrial and Agricultural Banks are included in the financial requirements for these sectors. Other costs relating to the above targets will be met from SAMA's own financial resources.

ENCOURAGEMENT OF PRIVATE ENTERPRISE

The private sector already accounts for 85 percent of GDP, 54 percent coming from the oil companies and 31 percent from other private sector activities. These percentages have changed little in recent years.

It is the general objective of the Plan to encourage the private sector to increase its productivity and to participate as much as possible in the process of development.

Programs and projects for the encouragement of private enterprise in the production sectors, where output comes mostly from private enterprise, are described in detail in the chapters on these sectors.

For other sectors, in particular education, health, public utilities and public administration, it is proposed that studies be initiated during 1390 through 1392 to devise means by which the private sector may be induced to offer some services currently being provided by the Government. Possibilities include:

1. Encouraging the private sector to establish and operate private schools and hospitals
2. Contracting the maintenance and operation of public utilities to private enterprise, and
3. Engaging private firms to repair and maintain governmental buildings and institutions

ADMINISTRATIVE REFORM

In recent years the Government has implemented measures to improve its administrative capacity; among the most important are:

1. Creation of the High Committee for Administrative Reform.

2. Formulation of a general plan for improving the organization of government.
3. Strengthening the Central Budget Department and the General Personnel Bureau.
4. Establishing the Central Organization and Management Department and the related O & M units within the ministries, the Institute of Public Administration, the Public Works Department, and the Central Purchasing Department.
5. Influencing specific organizational changes in various ministries and agencies.

Much remains to be done to improve the administrative capacity to the level required for increasingly rapid economic and social development.

Objectives and Targets

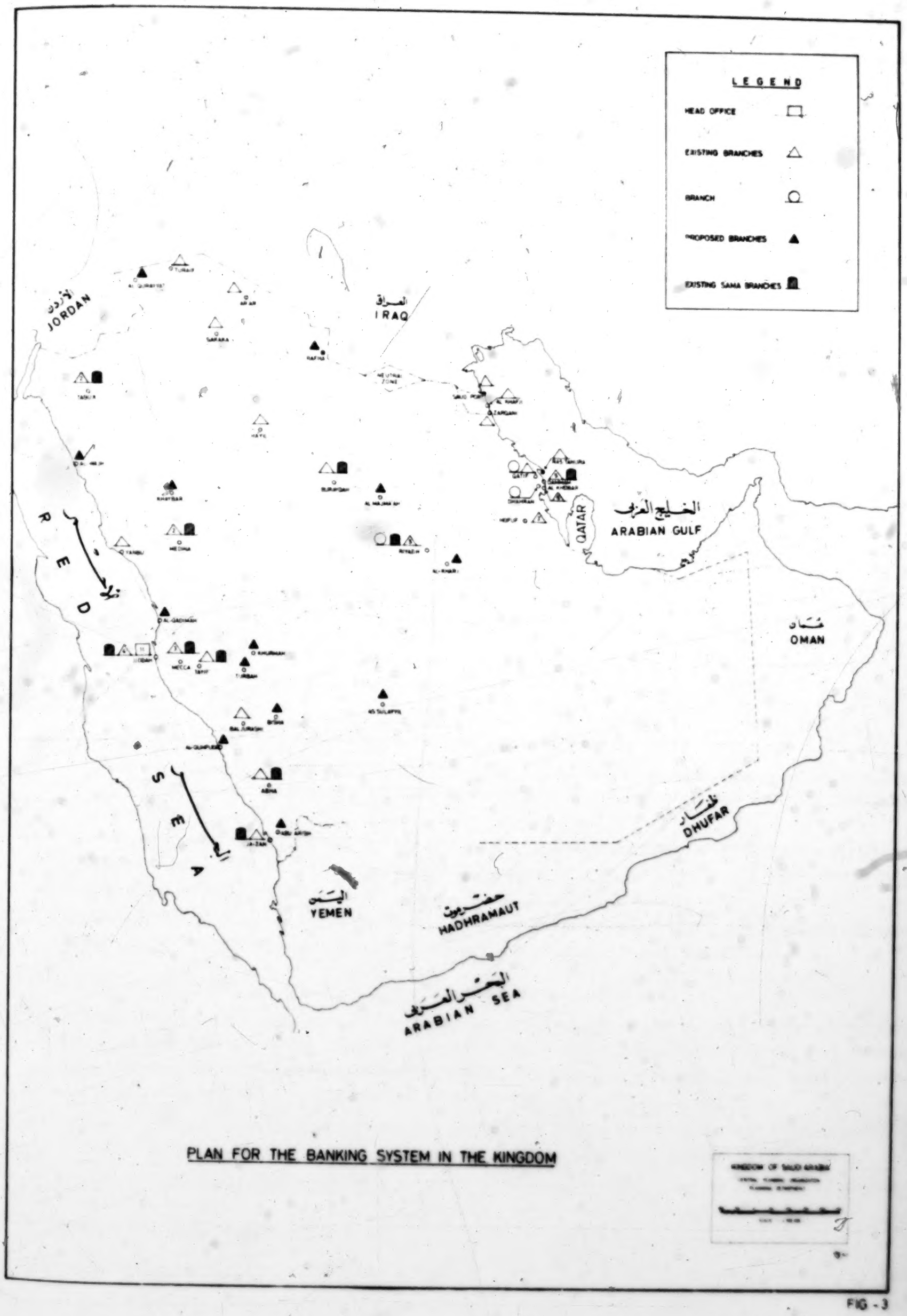
The general objectives for administrative reform are to:

1. Improve the effectiveness of the agencies established to undertake the centralized functions of government.
2. Achieve greater delegation of authority and responsibility for other functions to the specialized agencies of government.
3. Achieve clearer definition within all agencies of the functions of divisions, sections and individuals, and hence greater delegation of authority and responsibility at all levels.

Targets for the first year of the Plan are:

1. Publication by the Personnel Bureau of a personnel law defining the structure and conditions of employment in the public service.
2. Revision by the Personnel Bureau of the structure of salaries for Saudi employees in accordance with the grades and qualifications specified in the personnel law.
3. Definition by the Ministry of Finance of a program for budget and accounting reforms and formulation by the Institute of Public Administration of a corresponding training program designed to support its implementation.
4. Classification by the Ministry of Finance of functions and posts in four major ministries so that reforms of personnel, budget and accounting practices within these ministries can be implemented during the second year of the Plan.
5. Resolution by the High Committee for Administrative Reform of outstanding problems in relation to division of responsibility between agencies.
6. Review by the High Committee for Administrative Reform of progress made in the effort to centralize common services in the agencies responsible for:
   a. Public works,
   b. Central purchasing and contracting,
   c. Government printing works,
   d. Mapping,
   e. Statistics and computer services;

   and definition of the extent to which further centralization may be necessary.
7. Initiation by the High Committee for Administrative Reform of studies directed toward the decentralization of the functions of executive ministries and agencies down to the regional and district levels.
8. Initiation by the Ministry of Interior of studies on development of local administration.
9. Revision of regulations and procedures that may obstruct achievement of the objectives of the Plan, in particular:
   a. Revision by the Ministry of Finance of customs import, re-export and tariff exemption and rebate regulations and procedures.
   b. Revision by the Ministry of Interior of entry-visa and residence procedures for qualified foreign personnel.
   c. Revision by the Ministry of Interior of licensing and coordination procedures for urban works.



PLAN FOR THE BANKING SYSTEM IN THE KINGDOM

FIG - 3

Targets for the second year, for the corresponding agencies identified above, are:

1. Implementation of reforms in personnel, budget and accounting practices in the four major ministries studied during the first year of the Plan.
2. Classification of functions and posts in the remaining ministries and agencies, and implementation of reforms in personnel, budget and accounting practices by the end of the year.
3. Completion of studies relating to further centralization of common services.
4. Review and decision-making on the decentralization of the functions of executive ministries and agencies to the regional and district levels.
5. Formulation of a program for giving greater autonomy to local governments with respect to local government functions within a framework of defined allocations of centrally collected revenues, specific powers of taxation and rate collections and defined authority over expenditures within specified limits.

Targets for the remainder of the Plan are the implementation of decisions relating to:

1. Further centralization of common services.
2. Decentralization of government functions to the regional and district levels.
3. The program for giving greater autonomy and responsibility to local administration authorities.

Throughout the Plan, the Central O & M Department in cooperation with the O & M units in each ministry and agency will undertake a continuing review of organization and procedures within ministries and agencies so as to achieve, by the last year of the Plan, a much higher level of productivity within the public service than the existing level.

PLANNING AND RESEARCH

In the past two years the Central Planning Organization, with the support and cooperation of other ministries and agencies, has produced an Economic Report and this Development Plan. In so doing it has shown the importance of a continuing and critical appraisal of all aspects of economic and social development and the benefits that can accrue from inter-ministerial coordination and from formulating programs for several years instead of annually.

Objectives and Targets

The general objectives for the Central Planning Organization for the Plan are to:

1. Improve the utilization of economic, financial, and human resources by ensuring that decisions on policies, programs and projects are based on adequate studies of the economic, social, and financial implications of such desicions.
2. Promote the collection of statistical and research information so that decisions may be made and plans and programs formulated in the light of a more comprehensive knowledge of facts and a better assessment of the potential for development.
3. Encourage the adoption of policies and forms of economic organization that will give economic and social forces greater freedom to contribute to the processes of economic and social development.

Targets for the Central Planning Organization for 1390-91 are to:

1. Initiate, in cooperation with the agencies concerned, a national transport survey covering all modes of transport that will lead to the formulation of a detailed program for investment in transport facilities integrated with the planned development of agricultural and industrial production, and designed to facilitate the raising of loan finance for major investment projects.
2. Initiate a regional survey of the northwest portion of the Kingdom that will lead to the formulation of an integrated plan for exploitation of the iron ore, phosphate and natural gas deposits in the region.
3. Participate with other agencies in defining the terms of reference for first priority studies identified in sectoral plans.
4. Review progress and problems related to implemention of the Plan.

Targets for 1391-92 are to:

1. Complete the transport survey and devise an investment program in cooperation with the agencies concerned.
2. Complete the regional survey of the northwest region and formulate a program for implementation of the conclusions reached.
3. Initiate a regional survey covering the southwest portion of the Kingdom that will lead to the formulation of an integrated plan for development of its mineral and agricultural resources.
4. Participate with other agencies in the formulation of programs based on the first priority studies undertaken in 1390-91 and in the initiation of second priority studies.
5. Review the progress and problems related to implementation of the Plan.

Targets for the remainder of the Plan are to:

1. Follow up on studies undertaken or initiated during 1390-91 and 1391-92.
2. Review progress and problems related to implementation of the Plan.
3. Define research work and studies to be performed in advance of preparation of the next development plan.
4. Prepare the next development plan.

STATISTICS

Statistics that describe the operation of a country's economic and social forces are rightfully a matter of national concern. Saudi Arabia has recognized this by establishing a Central Department of Statistics (CDS), with responsibility for, and authority to, determine statistical requirements and initiate programs to satisfy those requirements.

Saudi Arabia has thus decided on a highly integrated national statistical system. Substantial progress has been made in recent years, but the data developed still fall far short of the desirable quality as well as quantity, particularly for an economy wherein planning plays such a key role.

The role statistical data play in planning economic development is an obvious one. No less important is the contribution of statistical data to appraising performance and evaluating progress. Of equal significance is the use to be made of statistics in management. While planning and development may take place in the absence of comprehensive and reliable statistics, no one would question that their absence constitutes a serious handicap.

Producing the desired statistical data is a slow process; not all the required information can be made available in the short run. The single most important limiting factor in obtaining the desired data is the shortage of trained people on both the administrative and field levels. It is, therefore, mandatory to establish a carefully designed scheme of priorities for the various programs required to produce the statistics needed by planners and decision markers. It is necessary, first of all, to specify the major categories of statistics needed for use in planning.

These needs should then be examined with respect to the existing situation. The next steps are to:

1. Find means of filling gaps as soon as possible;
2. Take the steps necessary to assure that an orderly flow of the requisite information eventually occurs as a matter of routine; and,
3. Make the data available promptly in an organized form geared to the needs of appropriate authorities for their respective fields of concern.

Objectives and Targets

Major Objectives

The major objectives of the Plan for statistical development are to:

1. Improve the quality of all the existing statistical series;
2. Expand the existing series to provide additional information not now available, but that is required by planners, decision makers, managers, and appraisers; and,
3. Accelerate the collection, collation, analysis, and publication of economic and social data of all types.

Targets

The CDS has identified four targets for the Plan:

1. Completion of a comprehensive population census by the last year of the Plan.

2. Initiation by 1391-92 of a series of quarterly sample surveys to obtain data from which natural population growth rates can be calculated.

3. Cooperation with other ministries and agencies in obtaining an improved data base from which to estimate the Gross National Product; the field work for such sample surveys to be initiated in 1390-91.

4. Expansion of the CDS data base for use in improving and adding to the existing statistical series.

Additional information on methods, timing, frequency and the participation by other government agencies in achieving these targets is set forth in the appendix to this section. In addition, this appendix includes information on the continuing programs and such modifications as are proposed for them.

Comprehensive Census. Accurate knowledge of the characteristics of the Kingdom's population is of utmost importance to the planner and the administrator. This knowledge can be obtained only by the completion of a comprehensive census that will develop information on the population, its housing, the available labor force, agriculture, and all other aspects of the economy. The planning and preparation for the census must be completed soon enough for the head-count to be performed in 1392-93 if the results are to be analyzed and published by the target date. The planning and preparation for the head-count will begin in 1390-91.

Sample Surveys. Knowledge of natural growth rates will provide a basis for the development of a census strategy and further surveys. Preparations for these surveys will start in 1390-91; the actual surveys will be initiated in 1391-92 and performed quarterly thereafter.

Cooperative Surveys. An improved data base from which to estimate Gross Domestic Product will be obtained in cooperation with the ministries and other agencies as shown in Table 4.

TABLE 4

RESPONSIBILITIES AND SCHEDULES FOR COOPERATIVE SURVEYS

Sector	Preparation	Field Work	Completion
Agriculture	1390-91	1392-94	End of Plan
Mining, Manufacturing, Gas and Electricity	1393-94	End of Plan	Post-1395
Construction	1390-91	1390-91	1390-91
Trade and Services	1392-93	1393-94	End of Plan
Communications	1390-91	1390-91	1390-91
Insurance	1390-91	1390-91	1390-91
Real Estate	1389-90	1390-91	1390-91

In addition to these new programs, a large number of continuing programs within CDS and the cooperating government agencies generate data on production, value added, capital formation, employment, government revenue, prices, wages, and societal matters, including education and health. These statistical programs will be strengthened during the plan period as part of normal operations.

Data Base Expansion. The CDS will expand its data base through improvements in staff, facilities, and coordination throughout the government insofar as statistical capabilities are concerned, so that new statistical series can be added and existing series can be improved. These statistical series will be devoted to such topics as:

1. **Gross National Expenditures:** the final demand by major categories of consumption and investment.

2. **National Income:** The total, rate of growth, and distribution.

3. **Economic Indicators:** Improved time series on wages, prices, cost of living, foreign trade, employment, etc., to be published quarterly.

4. **Capital Formation:** Data on the development of capital formation based on actual public and private investment by economic sector.

5. **Government Accounts:** Economic classification of all governmental receipts, and economic and functional classification of all public disbursements.

6. **Classification of Commodities Used in Trade Statistics:** Replacement of the existing BTN with the U.N. SITC and reduction in the time lag in publishing such data.

7. **Foreign Trade and Balance of Payments:** Analysis of all exports, imports, and re-exports; and of balance of payments by type of transaction.

8. **Gregorian Calendar:** Development of means and methods for presenting all statistics on a Gregorian calendar year basis and compile supplementary series where appropriate on a Hijra year basis.

The foregoing is by no means exhaustive, but provides a frame of reference for the formulation of an overall strategy to meet the major needs of development planners. Data for more specialized requirements can be developed as needed. Once the basic data are assembled and collated, they can be aggregated in various ways to describe the operation of the economy, the interrelationships of its various parts, and to make predictions about the probable consequences of alternative actions.

Programs and Projects

The following actions will be taken to achieve the above objectives and to meet the government's growing needs for data handling of many types.

Operations

The staff of the Central Department of Statistics will be strengthened during the Plan by adding more Saudi and foreign experts and other permanent staff. These experts will be organized as teams of specialists under the direction of a senior expert who will be responsible for coordinating their activities and who will report directly to the Director General of CDS.

The statistical staffs of the other ministries and agencies will be considered as part of the national statistical team. The CDS will cooperate with them as requested in recruiting personnel, and in designing, structuring, and organizing statistical programs.

The existing field offices of the CDS (located in Jiddah, Dammam, Abha and Buraydah) now have only nucleus staffs. These offices will be adequately staffed and organized into a network for the field collection work related to the statistical programs. This organization will provide a smooth and regular flow of information to the central staff which then will be able to check, code, process and publish data expeditiously.

Facilities

The projected increase in staff and workload will soon exhaust the capacity of the present processing equipment and facilities. It is proposed to replace the existing unit-record-type of processing equipment with a medium-sized computer.

In the medium term future, it is proposed to design and construct a special facility to house the Central Department of Statistics. This building will provide office space for a permanent staff of 300 before the end of the Plan, a technical library, training facilities, conference rooms, and computer installation. Adequate housing and associated facilities will greatly improve the efficiency of the CDS.

Training

Under the existing work pressures, training occurs only incidentally. Strengthning the staff and expanding the facilities will accelerate the conduct of systematic training programs, thus improving both the technical and the administrative capabilities throughout the department.

Gregorian Calendar

Economic data by their very nature involve a strong element of seasonality. To simplify the production of meaningful analyses for economic planning, it is proposed that statistics be compiled and presented according to the Gregorian calendar. Distortion occurs in comparisons of months, of quarters, or of years when periods differ in duration. In addition, the most important source of revenue — oil — is received on a Gregorian year basis. Furthermore, the most important economic sector in terms of the number of people involved — agriculture — is inherently a Gregorian year activity. Moreover, international comparisions of any given time series require a year of similar length; for example, SAMA maintains records on the balance of payments on a Gregorian calendar basis, as does the CDS on foreign trade. Such comparisons are becoming increasingly important in connection with development planning.

There are statistical series, however, whose seasonality is associated with the Hijra year; supplementary tabulations will be compiled on this base.

Coordination of Statistical Programs

Most statistical programs will be directly controlled by the Central Department of Statistics. There are, of course, many types of statistics that should be generated by other departments, ministries, and agencies from their normal record-keeping activities. These activities will be coordinated by the CDS to maintain internal consistency in the data generated so that such programs may be integrated within the framework of the Kingdom's broad program for a national statistical system.

Manpower Requirements

The existing manpower situation and the annual increases at different levels over the period of the Plan indicate that the Department will require 10 persons with suitable specialities at a master's degree level and 50 persons at the bachelor's degree level. Provision is also required during the period for 20 to 25 fellowships abroad to train a portion of the senior members of the professional staff in advanced specialities.

Financial Allocations

The financial allocations for the statistcs program are shown in Table 5.

TABLE 5

FINANCIAL ALLOCATIONS FOR THE CENTRAL DEPARTMENT OF STATISTICS

(SR. Millions)

	Recurrent	Project	Total
Salaries and wages	18.9	—	18.9
Operating Expenses	5.5	—	5.5
Census	—	20.5	20.5
CDS Building	—	2.0	2.0
Total	24.4	22.5	46.9

MAJOR STATISTICAL SERIES REQUIRED FOR SOCIAL AND ECONOMIC PLANNING TO BE DEVELOPED DURING THE PLAN PERIOD

Note: *In the case of continuing programs an asterisk (*) is shown; unless a note to the contrary is given under remarks column, a proposed new program is to commence in the financial year 1391/92.*

Scope of Statistical Series	Source and Frequency	Agency Responsible	Remarks
I. Population			
1) Number of persons classified by economic activity, marital status, educational level, size of household ,sex, age and nationality group.	**Census** Decennial	CDS/Ministry of the Interior	To make the Census results available in final form by the end of the Plan,the actual head count must occur no later than 1392/93 which means that planning and preparation should start early in 1390/91
2) Births and Deaths.	**Sample Survey** Quarterly	CDS/Ministry of Health	As an interim measure until vital registration system is fully developed
3) Immigrants and Emigrants; number by sex, age and occupation.	**Admin. Reporting** Annually and Quarterly*	CDS/Ministry of the Interior	
II. Housing Number of houses by types, rooms, occupants and type of utilities.	**Census** Decennial	CDS/Ministry of the Interior	Within the framework of population census
III. Labor Number in the labor force classified by kind of economic activity occupation, levels of skills, sex, age, nationality, wages and salaries paid and hours of work.	**Sample Survey** Annual	Ministry of Labor and Social Affairs/CDS	
IV. Agriculture			
1) Number of agricultural holdings by size, kind of tenure, irrigation and power, workers, capital formation.	**Sample Census** Decennial	Ministry of Agriculture/CDS	Field work must start beginning of 1391/92.
2) Estimates of area sown and yields (selected crops): number of fruit trees/vines by kinds and yields.	**Sample Survey** Annual	Ministry of Agriculture/CDS	
3) Number of livestock by kind,sex and age; number slaughtered quantity and value of products.	**Sample Census** Quinquennial	Ministry of Agriculture/CDS	Within the general framework of agricultural census
4) Forests: area, density, fellings and growth; quantity & value of timber extracted.	**Sample Census** Quinquennial	Ministry of Agriculture/CDS	
5) Fishing: catch by kind and value.	**Sample Survey** Annual	Ministry of Agriculture/CDS	

Scope of Statistical Series	Source and Frequency	Agency Responsible	Remarks
V. Mining, Manufacturing and Production of Gas and Electricity			
1) Number of establishments, key inputs and products, value added by kind of economic activity and size of establishment; legal organization; value of fixed assets; number of workers; capacity of installed power equipment.	**Census** Quinquennial	CDS/Ministry of Commerce and Industry	During final years of plan.
2) Estimates of employment and value added by kind of economic activity; gross capital formation; average prices paid for key inputs and received for key outputs.	**Sample Survey** Annual*	CDS/Ministry of Commerce and Industry	
VI. Construction			
Total value and value added by type of construction and employment with details of new starts and completions.		CDS/Ministry of Interior (Municipalities) PWD	
VII. Wholesale, Retail and Service Trades			
1) Number of establishments, value of sales, gross margins by kind of activity, employment size, legal/ economic organization.	**Census** Quinquennial	CDS/Ministry of Commerce and Industry	
2) Number of workers, value of sales, gross margins, inventories, capital formation, investments and turnover.	**Sample Survey** Annual*	CDS/Ministry of Commerce and Industry	
3) Wholesale and retail prices (selected commodities).	**Sample Survey** Annual, Quarterly, Monthly and Weekly	CDS/Ministry of Commerce and Industry	
VIII. External Trade			
Imports, exports and re-exports of goods by commodities and countries.	**Admin. Reporting** Annual, Quarterly and Monthly*	CDS/Customs and Ministry of Finance	Present classification which is based on BTN needs to be replaced by SITC
IX. Transportation			
1) **Roads:** Length by types; number and carrying capacity of commercial vehicles; value added and gross capital formation; number of workers.	**Admin. Reporting** Annual*	Ministry of Communications	

Scope of Statistical Series	Source and Frequency	Agency Responsible	Remarks
2) **Rail:** Net freight ton/ passenger-km carried; revenue; capital formation; rolling stock; number of workers.	**Admin. Reporting** Annual*	Ministry of Communications	
3) **Sea:** Gross tonnage of goods loaded / unloaded, revenue; value added by ports; capital formation; number of workers; capacity of ports.	**Admin. Reporting** Annual*	Ministry of Communications	
4) **Air:** Passenger-km; cargo, mail ton - km; revenue; value added, capital formation; number of aircraft, number of passengers embarked/disembarked; cargo loaded/unloaded for domestic and international flights.	**Admin. Reporting** Monthly*	Ministry of Defense (Civil Aviation)	
X. Communications			
1) **Post Offices:** Number of post offices, letters/parcels cleared; revenue; value added and capital formation; number of workers.	**Admin. Reporting** Annual	Ministry of Communications	
2) **Telephones:** Number of exchanges; subscribers; calls registered; revenue; value added and capital formation; number of workers.	**Admin. Reporting** Annual	Ministry of Communications	
3) **Telegraph:** Number of telegraph offices; telegrams cleared; revenue; value added and capital formation; number of workers.	**Admin. Reporting** Annual	Ministry of Communications	
4) **Radio/TV:** Number of broadcasts/telecasts, stations, value added and capital formation; number of radio/TV sets; number of workers	**Admin. Reporting** Annual	Ministry of Information	
XI. Money, Banking, Insurance and Finance			
1) **Banks:** Number of banks, branches and workers; current and time deposits; loans and advances; gross capital formation and value added.	**Admin. Reporting** Annual*	SAMA/CDS	

Scope of Statistical Series	Source and Frequency	Agency Responsible	Remarks
2) **Insurance Companies:** Number of companies/ agencies, premiums received by kind of business, benefits paid and costs incurred; number of workers.	**Mail Enquiry** Annual	CDS	
XII. Education			
Number of public and private schools by level of education; teachers by nationality and level of education; students by sex, level of education, enrolled, examination results (appeared and passed); value added and capital formation.	**Admin. Reporting** Monthly*	Ministry of Education	
XIII. Health			
Number of hospitals, dispensaries and health centers; number of beds and their utilization; in-patients and out-patients by type of medical care/diseases; doctors and other medical personnel by sex, nationality and specialization, departmental statistics, value added and capital formation.	**Admin. Reporting** Monthly*	Ministry of Health	
XIV. Family Living Studies			
Distribution of households by broad income ranges, socio-economic characteristics, household size and expenditure on broad groups of items.	**Sample Survey** Quinquennial	CDS/Ministry of Labor (S.A)	During final year.
XV. Government			
Economic classification of receipts and disbursements, economic and functional classification of expenditures.	**Admin. Reporting** Annual*	CDS/Ministry of Finance	

PUBLIC WORKS

Public Works activities are presently performed by the Public Works Department (PWD) and other government ministries and agencies. These activities are handicapped by shortage of technical staff of agencies performing these activities, coordination between the departments and ministries dealing with public works activities as well as lack of consistency in standards of construction.

Objectives and Targets

The main purpose of the Public Works Plan is to merge vital public works activities in one organization (PWD) where, by so doing, economies in operation will be obtained.

Specific objectives are to:

1. Undertake a study to define the role of PWD with regard to performance of public works activities.
2. Allocate responsibility for design, supervision of construction, and maintenance of all government buildings to PWD.
3. Create capabilities within PWD for testing materials used in the construction field.
4. Upgrade the national building codes and material specifications and standards and to prepare drafts of regulations for proper execution of public works.

Materials testing laboratories will be established in Jiddah, Riyadh and Dammam in connection with the above third objective.

In pursuance of these objectives the following targets have been set for accomplishment within the period of the Plan:

Completion of the following activities by the end of the first year of the Plan:

1. Study regarding centralization of classes of public works activities and services in PWD.
2. Implementation of a training center at PWD headquarters.
3. Implementation of a materials testing laboratory in Riyadh.
4. Feasibility study regarding the desirability of additional PWD branches.

Completion of the following activities by the end of the second year of the Plan:

1. Implementation of a central library for materials testing.
2. Implementation of a computer center.
3. Implementation of a materials testing laboratory in Jiddah.
4. Implementation of mobile laboratories.
5. Preparation of regulations for proper execution of public works.

Completion of the following activities by the end of the third year of the Plan:

1. Establishment of upgraded national building codes and materials specifications and standards. This task will be coordinated with the Ministry of Commerce and Industry.
2. Implementation of a materials testing laboratory in Dammam.
3. Implementation of additional mobile laboratories.

Completion of the following activities during the remaining years of the plan period (in order of priority):

1. Allocation of responsibility for design, supervision of construction, and maintenance of all government buildings to PWD.
2. Implementation of additional mobile laboratories.
3. Reorganization of PWD.

The first target for completion by the end of first year of the Plan relates to the High Committee for Administrative Reform, while all other targets relate to PWD. These other targets are based on the assumption that the study regarding centralization of classes of public works activities and services will conclude that PWD should continue to be responsible for public buildings and material testing.

Programs and Projects

To achieve the above objectives the following actions will be taken:

1. **Study Regarding Centralization of Classes of Public Works Activities and Services.** This study, which will be carried out by the High Committee for Administrative Reform, will establish which classes of public works and services related to public works should be centralized in PWD and which should remain the responsibility of other agencies, having regard to the capabilities of the respective agencies. The study will also define a program for implementation.

2. **Training Center.** A training center for Saudi Nationals will be organized at the premises of PWD headquarters. Within a period of three years Saudis will be trained as draftsmen, land surveyors, and operators and technicians for materials testing. This training will result in reducing dependence on foreign personnel in keeping with government policy.

3. **Riyadh Materials Testing Laboratory.** The construction of the building for the materials testing laboratory in Riyadh has been completed and some of the required equipment has already been ordered. This laboratory will be used to test concrete, cement, soils, water, ceramics, paints and lacquers, plastics, steel bars and timber.

4. **Feasibility Study for Additional PWD Branches.** It is felt that the remoteness of some of the sites of PWD activities will justify the establishment of additional branches, particularly in Abha, Tabuk, Al-Jauf, Jizan, Al-Qasim, and Medina. However, a feasibility study is required to determine the economic justification of introducing additional branches. The financial allocations described below include an allowance for establishing four additional branches.

5. **Central Library for Materials Testing.** Building materials testing is an area in which many improvements have been made during recent years. It is expected that additional improvements will be introduced abroad in the future. The proposed library will be helpful in maintaining procedures related to materials testing according to the latest methods.

6. **Computer Center.** The Computer Center will initially be established for the performance of calculations with simple electronic equipment. Towards the end of the Plan the center will also be used for the evaluation of test results.

7. **Jiddah and Dammam Materials Testing Laboratories.** During the period of the Plan two small materials testing laboratories will be established in addition to the laboratory in Riyadh. The Jiddah laboratory will be in operation during the end of the second year of the Plan, while the implementation of the Dammam laboratory will be completed during the end of the third year of the Plan.

8. **Mobile Laboratories.** Mobile Laboratories will be introduced to facilitate PWD activities in locations distant from Jiddah, Riyadh and Dammam. Two mobile laboratories will be introduced during the second year of the Plan, while two additional units will be organized during each of the two subsequent years.

9. **Execution of Public Works, National Building Codes and Materials Specifications.** PWD will prepare regulations for the proper execution of public works, including standard forms for contracts and regulations for consultant's fees, in the areas of civil, mechanical, electrical, and sanitary engineering, air conditioning and accoustics. In addition, PWD will, in coordination with the Ministry of Commerce and Industry, prepare upgraded national building codes and materials specifications and standards.

10. **Allocation of Responsibility for Design, Supervision of Construction, and Maintenance of all Government Buildings to PWD.** During the first four years of the Plan preparations will be made to allocate responsibility for design, supervision of construction, and maintenance of all government buildings to PWD. These preparations call for the assistance of ten foreign experts to train Saudis in the fields of civil, electrical, and mechanical engineering, architecture and land surveying. During the first four years of the Plan three design, and supervision of construction projects will be undertaken annually.

11. **PWD Reorganization.** During the period of the Plan PWD will be reorganized to enable it to take over the responsibility for design, supervision of construction, and maintenance of all government buildings in an effective manner. Planning techniques such as "Program Evaluation Review Techniques (PERT)" and "PERT/COST Procedures" will be introduced. In addition, the reorganization will include actions to be taken if additional public works activities become the responsibility of PWD upon termination of the Plan.

Financial Allocations

Table 6 shows total financial allocations required for the above programs and projects.

TABLE 6

FINANCIAL ALLOCATIONS FOR THE PUBLIC WORKS DEPARTMENT
(SR Millions)

	Recurrent	Project	Total
High Committe for Administrative Reform			
Centralization Study of Public Works activities	—	—	—
Public Works Department			
Training Center	0.6	—	0.6
Riyadh Materials Testing Laboratory	7.0	14.0	21.0
Feasibility Study for Additional PWD Branches*	2.7	4.1	6.8
Central Library for Materials Testing	0.3	1.4	1.7
Computer Center	2.3	6.0	8.3
Jiddah and Dammam Materials Testing Laboratories	5.2	17.0	22.2
Mobile Laboratories	0.9	5.1	6.0
Execution of Public Works Codes and Specifications	1.0	—	1.0
Allocation of Responsibility for Design, Supervision of Construction and Maintenance of all Government Buildings to PWD	26.8	—	26.8
PWD Reorganization	0.5	—	0.5
Total	**47.3**	**47.6**	**94.9**

* *Project costs include allowance for establishing four additional branches.*

MAPPING

The preparation of various development programs by government agencies and private organizations is handicapped by a lack of maps. The range and availability of services offered by the Aerial Survey Department (ASD) must be improved to provide the maps required for economic development.

This improvement is also important to avoid duplication of mapping activities now performed by several ministries.

Objectives and Targets

The general objective of the mapping plan is to provide a comprehensive mapping service for the country and hence to provide reliable data for physical planning of projects such as mineral explorations, highway construction, and design of irrigation works. Use of reliable maps will avoid losses of significant amounts of money as occurred in the past with road construction projects.

Specific objectives are to:

1. Complete and maintain the first order National Geodetic Network, which will be the basis for geodetic surveys needed for projects dealing with the determination of locations and/or distance and height measurements;
2. Prepare and supply national topographic maps for the entire Kingdom, which will facilitate planning work in agriculture, industry, transportation, communications, geology, defense, and other sectors;
3. Prepare and supply large scale maps as requested by government agencies and private enterprises;
4. Prepare and supply thematic, revised, and derived maps, including photomosaics*;
5. Maintain a Central Data Bank for surveying data, maps and aerial photography, thus avoiding duplication of surveying and mapping efforts in the Kingdom.

Targets set for the completion of specific surveying and mapping activities during the period of the Plan are:

1. Completion of first order National Geodetic Network (NGN) in 1390.

* *Thematic maps show such information as soil and mineral characteristics, road charateristics, town plans and the like. Revised maps are maps up-dated to provide latest information. Derived maps are small-scale maps prepared from large scale maps. Photomosaics are sets of aerial photographs.*

2. Extension of NGN into the northeast of the Empty Quarter in 1391.
3. Topographic mapping of the following areas (by priority):
   a. Tayif
   b. Northern Hejaz and Asir
   c. Qasim
   d. Eastern Province and Central Hejaz
   e. South Shammar and Dahna
4. Addition of Statistical Section to Central Data Bank in 1392.

The order of priorities for topographic mapping was established after consultation with the main users of the mapping service.

Programs and Projects

To achieve the above objectives a mapping program comprising five projects and a training program are proposed. The mapping projects and training program are described below.

Basic Geodetic Network. This project provides for:

1. Completion of the first order National Geodetic Network project (NGN), which started in 1386: this network will provide the basis for projects dealing with the determination of location and/or distance and height measurements.
2. Expansion of the NGN project to include the northeast of the Empty Quarter.
3. Integration of existing local networks in the NGN: These include the ones prepared by oil companies, and the "Geological Triangulation" prepared by DGMR in cooperation with Aramco, USGS and the US Army Map Service (AMS).
4. Geophysical surveys; a primary network will first be prepared for magnetism and gravity; later existing local networks will be incorporated.
5. Maintenance of geodetic networks by repositioning of lost geodetic points and updating the archives maintained at ASD.

Topographic Mapping. Implementation of the National Topographic Mapping Project (NTMP) was initiated in 1389. The results of this 10-year project will facilitate the planning of communications, irrigation, agriculture, geologic research and the like. Areas to be completed within the period of the Plan are Tayif, Northern Hejaz, Asir, Qasim, Eastern Province, Central Hejaz, South Shammar and Dahna, (Fig. 4). The NTMP maps will adhere to international standards and rules. they will include the following features: uniform scheme of production, provision for revisions, reliable and current information with complete planimetry and height data. Maps are prepared on three different scales: 1:50,000, 1:100,000 and 1:250,000, depending on the importance of the areas.

Large Scale Mapping Service (LSMS). The LSMS will supply ministries and private enterprises with large scale maps of any part of Saudi Arabia upon request.

Thematic, Revised and Derived Mapping. Thematic mapping will be performed for such special purposes as soil and mineral investigations, town planning and road classification. Revisions will update topographic and town planning maps, and small scale maps will be derived from maps with a large scale.

Central Data Bank. ASD activities related to the Central Data Bank will be continued. The organization of the archives system of the Central Data Bank has been completed. A statistical section will be added to this archives system.

Training Program. Training of Saudi staff is planned for activities related to large scale mapping. A training program to be implemented in the first year of the Plan calls for a training and advisory team consisting of nine experts. This program will include courses from six months to two or three years and will be continued until the end of the Plan by which time the present ASD staff will be increased to about 160 professional and skilled employees.

Activities related to the geodetic network will be performed by the present ASD staff and foreign manpower but the execution of the topographic mapping project will mainly be done by foreign contractors.
Activities related to thematic, revised and derived mapping, as well as the Central Data Bank, will be carried out by foreign and local staff assigned to the geodetic network and topographic mapping projects, and the large scale mapping service.

Financial Allocations

Table 7 shows total financial allocations required for the above programs and projects as well as personnel expenditures during the period of the Plan. Though these allocations are shown as separate from the budget of the Ministry of Petroleum and Mineral Resources, it is understood that the ASD budget forms an integral part of this Ministry's budget.

TABLE 7

FINANCIAL ALLOCATIONS FOR MAPPING
(SR Millions)

	Recurrent	Project	Total
Aerial Survey Department			
Basic Geodetic Network	0.1	8.8	8.9
Topographic Mapping	1.2	54.3	55.5
Large Scale Mapping	1.2	3.1	4.3
Thematic, Revised and Derived Mapping [a]	—	—	—
Central Data Bank [a]	—	—	—
Training	10.0	—	10.0
Personnel	12.9	—	12.9
Expansion of ASD Building	—	0.5	0.5
Total	**25.4**	**66.7**	**92.1**

(a) No allocations are made since these projects will be carried out with equipment and personnel planned for other projects.

FINANCIAL ALLOCATIONS FOR ADMINISTRATION

The financial allocations for the agencies included in the category of Administration* are shown in Table 8

Total budget allocations for this class in 1389-90 amount to SR 1,330.2 millions of which SR 217.7 millions are for project expenditures.

The total and recurrent amounts are projected to increase by 5 percent annually throughout the Plan, and to the latter is added the estimated net cost of restructuring of salaries.

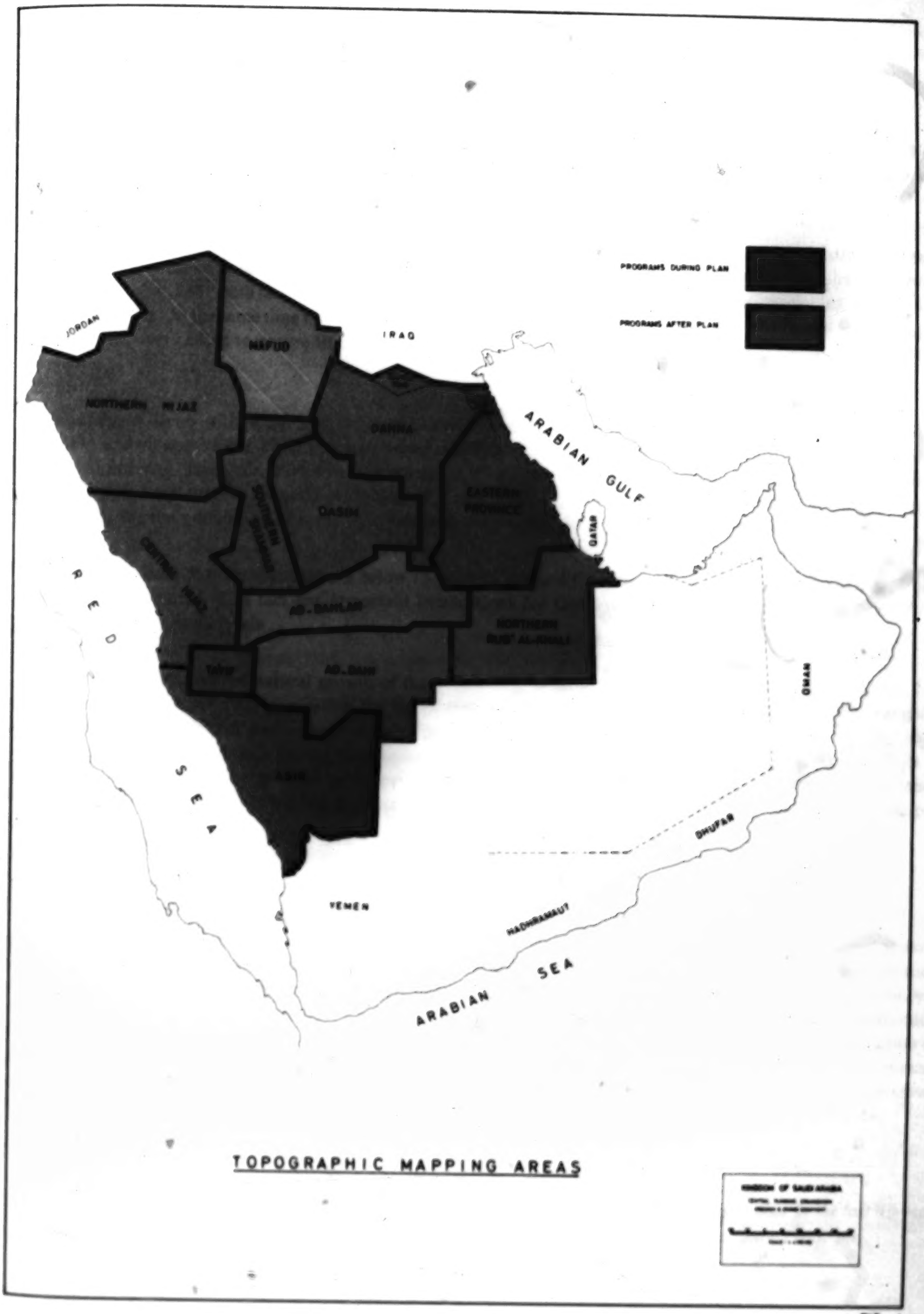
The total project amount is the amount remaining after total recurrent is deducted from the overal total. It provides for average annual expenditure for projects in this category of SR 184.6 million, compared with the sum of SR 217.7 million budgeted for 1389-90.

* *All agencies except Defense and the National Guard for which financial allocations are not given in other chapters.*

TABLE 8

FINANCIAL ALLOCATIONS FOR ADMINISTRATION
(SR Millions)

	Recurrent	Project	Total
Public Works Department	47.3	47.6	94.9
ASD	25.4	66.7	92.1
CDS	24.4	22.5	46.9
Other Agencies	6,697.5	786.0	7,483.5
Total	**6,794.6**	**922.8**	**7,717.4**



TOPOGRAPHIC MAPPING AREAS

FIG.-4

CHAPTER IV

MANPOWER RESOURCES AND DEVELOPMENT

After a series of consolidations, the Kingdom of Saudi Arabia was formed, and an effective territorial state was superimposed upon the several geographical divisions which had been lacking in unity.

The emergence of the nation state has been accompanied by development of its social and administrative organization and the way of life of the Kingdom's population in general. The Government has especially emphasized expansion of education, training, and health facilities, achieving record rates of growth compared with most developing countries in similar circumstances. At the same time the Government has encouraged the sedentarization of nomadic and semi-nomadic people, and made every effort to ensure that they participate as fully as possible in the social and economic progress of the Kingdom.

Naturally, progress with social and structural development has been accompanied by corresponding growth of cities*, towns, and villages as a result of generous government spending on the construction of roads, telecommunications and municipal facilities. The trend for towns and villages is by no means uniform, however, since with improved means of communication, communities formerly psychologically and physically isolated are coming into touch with each other and with the cities; the population of some is augmented while others lose population to the cities.

About 46 percent of the population are below 15 years of age and therefore not included in the group from which the labor force is recruited. This fact has important implications for Government policies in many fields, particularly education and training at all levels.

With regard to the rate of natural growth of the population, present indications are that its value is about 2.75 percent per annum (47.5 per 1000 population for births and 20.0 per 1000 for deaths). During the next few years, it is expected that the birth rate will decline only slightly, probably from the present 47.5 per 1000 to about 45.0 per 1000. Improved health facilities and their greater acceptance, combined with a rise in nutritional levels, should contribute to a decline in the death rate, probably to about 15 per 1000 by the end of the Plan. The changes indicated in these demographic rates imply that the rate of natural increase of the population will reach a level of about 3.0 percent by the end of the Plan period.

THE LABOR FORCE

The total numbers of persons employed, by type of economic activity and regions and the percentage contribution of each group, are shown in Table 9. Some idea of the extent of development of the various regions, or concentration of certain activities in them, can be gained from an examination of these statistics. The emphasis on agricultural operations in the southern, central, and western provinces; mining and quarrying in the east; manufacturing in the west; construction in the central and western; and product distribution in the western province is clearly observed. This regionalisation of activities results from a combination of circumstances, including the geographical distribution of natural resources, climatic conditions, and the availability of water. These factors have been partly responsible for large scale movement of the labor force in some instances, and imbalance of manpower supply-demand relationships in certain places.

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* *For example, in the case of the capital Riyadh, "Population growth has been particularly rapid, since in the last 40-year period it has increased by twelve times". — Riyadh, Existing Conditions, Doxiadis Associates; July 1968; piv.*

TABLE 9

EMPLOYED PERSONS 15 YEARS OF AGE AND OVER CLASSIFIED BY TYPE OF ECONOMIC ACTIVITY AND REGION — 1386

(Thousands)

Type of Activity	REGION						Percent of
	Central	East	West	North	South	Total	Total
Agriculture, Fishing, Livestock and Bedouin	83.3	33.8	78.2	55.5	213.9	464.8	46.2%
Mining and Quarrying	0.3	23.9	0.2	0.3	0.5	25.2	2.5
Manufacturing	7.2	7.3	18.7	1.0	6.8	41.1	4.1
Construction	32.1	11.2	46.5	3.5	10.8	104.0	10.3
Electricity, Gas and Water	0.9	1.4	3.4	0.2	2.6	8.3	0.8
Commerce	18.3	10.7	41.4	5.5	19.9	95.8	9.5
Trans., Com., and Storage	10.5	7.8	18.4	1.6	5.6	44.0	4.4
Services	60.7	24.9	87.9	18.4	27.0	218.9	21.8
Activities not adequately defined	2.2	0.8	1.0	—	0.5	4.5	0.4
Total	**215.5**	**121.8**	**295.7**	**86.0**	**287.6**	**1,006.6**	**100.0**

Source : Central Department of Statistics, "Demographic Survey 1385/86 AH".

NOTES: (*1*) *Above figures include Bedouin population. The number of employed Bedouins 15 years of age and over was estimated to be 151,200 of which 150,376 were males and 844 females.*

(2) *Total number of employees in the oil industry in 1386 was about 14,000. These have been included in the figures for mining and quarrying.*

(3) *Composition of Regions:*

Central : Riyadh, Qasim, Afif, Khasral

East : Eastern Province

West : Mecca, Medina, Ranyah

North : Ha'il, Northern Province, Northern Boundaries, al-Jaof, Querayat

South : Asir, Baljarshi, Bishah, Najran, Jizan.

These figures also indicate that agriculture and nomadism account for nearly one-half of the labor force, with services (including government administration, health, education, etc.) being the second largest contributor. While the percentage for agriculture is high (as is expected in a developing country), the division of the labor force between agricultural operations, industry and services is somewhat different from that observed in developing countries as a whole. Indeed, the existing distribution of the labor force by economic activity, based on a crude three-sector summary*, falls somewhere between the patterns observed for industrialised and developing countries.** (See Table 10).

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* *For purposes of this table, "Agriculture" includes settled agriculture, nomadic activities, forestry, fishing, etc. "Industry" incorporates figures for mining and quarrying, manufacturing and construction; while services comprise electricity, gas, water, transportation and communication and other services.*

** *Figures for industrialised and developing countries taken from P. Bairoch and J.M. Limber, "Changes in the industrial distribution of the world labor force, by Region, 1880 — 1960"; in International Labor Review (Geneva, ILO), Vol 98, No. 4; 1968, pp. 311 — 336.*

TABLE 10

THE LABOR FORCE BY MAJOR SECTOR OF ACTIVITY AND REGIONS

	Agriculture	Industry	Services	Total
Industrialized Countries (1960)	22.9%	36.0%	41.1%	100.0%
Developing Countries (1960)	73.1	11.2	15.6	100.0
Saudi Arabia (1967)	46.2	16.9	36.9	100.0

The percentage which agriculture forms of the total labor force is lower in the case of Saudi Arabia than for developing countries generally, due no doubt partly to the several physical and climatic limitations deterrring a higher rate of participation. At the same time, the group labelled **'industry'** involves a relatively higher proportion of workers on account of the significant numbers taking part in the construction of infrastructural projects, public buildings and housing accomodation in the Kingdom. In the case of the **'services group'**, the corresponding figure (36.9 percent) almost approaches that derived for developed countries for the year 1960, but further comparisons may be misleading, since the composition of the **'services'** sector for Saudi Arabia has some special characteristics. The services group for the kingdom is large because of the significant numbers engaged in commerce, various forms of petty trading, and as employees of the Government machinery. The fact that there are few public transportation companies operating large units, but instead, individually owned taxis serving the needs of cities and even long distance travel, contribute to making the **'services'** sector larger than expected.

Comparisons between the occupational distribution of the labor force in Saudi Arabia on the one hand, and developing countries as a whole on the other, also bring out some important differences. Some of these differences are due to the same factors which contributed to the 'peculiarities' noted when examining the industrial composition of the Kingdom's labor force. It would appear that, while being of interest, the structure of the labor force according to economic activity and occupations in developing countries generally, is not directly applicable to the case of Saudi Arabia. Therefore, care should be exercised in analysing the country's manpower resources and their utilization with the help of international comparisons.

In estimating the numbers who are now employed or are expected to be employed by the end of the plan period, the following considerations were taken into account:

1. For males, participation rates will remain constant for various reasons.
2. For females, a gradual increase in the female component of the labor force will take place.
3. Government will be able to hold the employment rate at the level recorded in 1966.

Using the framework outlined above, the natural growth of the labor force during the period of the Plan will be 225,300*. The extent to which this increase of the labor force from natural growth alone can meet the future demand for manpower will be discussed in a later section.

MANPOWER DEVELOPMENT

Educational Institutions and Programs

Since the products of educational and training programs are the main means whereby the country will try to provide manpower suited to the future demands and improved standards in a wide range of activities, it is important that continuous attention be paid to these sources in defining the magnitude of their growth within the framework of the requirements of the developing economy as a whole.

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* *Calculations of the labor force, employed and unemployed do not take into account the effects of net external migration after 1968.*

Domestic Programs

Some of the problems encountered in restructuring and increasing the output of academic and technical education* have been reviewed in more detail in chapter V of this Plan. Some important and fundamental policies will be implemented during the plan period but their full effect on the labor market will not be felt until after the Plan. The flows from the educational system are summarised in Table 11. These figures represent those who drop out of the system before completing a prescribed course, or who graduate and are eligible for entry to the labor force, or to receive extra training in some skills.

The interlocking nature of the parts of the system have been taken into account in constructing this table, that is, those completing one level who will proceed to a higher level have been excluded; for example, candidates successful at the final examination for intermediate general education and who will go on to general secondary, teacher training, etc., are omitted.

Overseas Programs

One of the important sources of high level manpower required for development is the program of overseas study sponsored by the various government ministries and agencies. This program of overseas study has been developed simultaneously with efforts to expand facilities in the Kingdom for higher education, and indeed, the two are complementary. As of January 1970, Saudi students abroad in institutions of higher education totalled 1740 of which

TABLE 11

OUTPUT OF EDUCATIONAL INSTITUTIONS BY COMPLETED GRADE, 1390/91 — END OF PLAN

Type of Institution or Program	DROP-OUTS GRADE OR YEARS COMPLETED						Total	Graduates or certificate holders eligible for entry to the labor force or training
	1	2	3	4	5	6		
Boys								
Primary	16,485	7,012	9,592	9,302	7,883	1,962	**52,336**	18,664
Intermediate	19,042	4,450	857	—	—	—	**24,349**	5,088
Secondary	2,818	221	632	—	—	—	**3,671**	400
Teacher Training	—	—	—	—	—	—	—	9,338
Secondary Vocational Schools	—	—	—	—	—	—	—	1,765
Girls								
Primary	3,718	1,630	1,424	1,225	1,004	101	**9,102**	40,763
Intermediate								
General Intermediate	1,073	329	15	—	—	—	**1,417**	13,320
Teacher Training	504	226	11	—	—	—	**741**	3,759
Domestic Science	56	23	—	—	—	—	**79**	106
Secondary								
General Secondary	202	25	—	—	—	—	**227**	300
Teacher Training	175	2	—	—	—	—	**177**	2,014
Shariah College	—	—	—	—	—	—	**29**	333
College of Education (Mecca)	—	—	—	—	—	—	**118**	419
Islamic University (Medina)	—	—	—	—	—	—	—	670
College of Shariah (Riyadh)	68	76	12	—	—	—	**156**	1,049
College of Arabic Language	85	41	12	—	—	—	**138**	976
Institute of Religious Studies	1,896	1,017	703	994	—	—	**4,610**	260
King Abdul-Aziz University	118	83	66	49	31	—	**347**	259
College of Petroleum and Minerals	—	—	—	—	—	—	—	670
Womens College of Education	—	—	—	—	—	—	—	148
University of Riyadh	—	—	—	—	—	—	—	1,856

Sources : Ministry of Education, Universities, etc.

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* *The following definitions were adopted in this study: Education: Programs of general or technical education administered by the Ministry of Education, the General Administration for Girls' Education, Universities and Colleges (including teacher training).*

Training: Programs undertaken within ministries and departments of Government and private sector with a view to improving the efficiency of workers, or providing workers and trainees with specific skills (including vocational training centers).

1533 were studying at the bachelor's level. The numbers who are expected to graduate during the plan period and their fields of specialization are summarized in Table 12. In the light of present requirements, the demands of the Development Plan, and the limited number of nationals studying in some areas of specialization, fields on which emphasis will be placed in making future awards for study overseas have been specified in a later paragraph.

Summary

The number of graduates is to a large extent determined by levels of enrollment prior to the commencement of the plan period. Some distortions in the distribution of those joining the labor force will occur, and any necessary adjustments will have to take place over a longer period extending from probably 10 to 15 years. Some of the main characteristics of the flow from educational institutions during the plan period will be:

1. A significant number of boys (42,000) will complete four years or less of primary education, and therefore will have an insufficient base on which to absorb training normally available.

2. During the plan period, thousands of primary certificate holders (142,771 boys and 87,939 girls), together with those who have completed grades 5 and 6 of primary education, form a sizeable pool from which certain types of trainees may be recruited.

3. A moderate number of boys with the intermediate certificate, only about 5,000, will be available for entry to the labor force or for training; but the corresponding supply in the case of girls will be much greater. Boys dropping out after one or two years of intermediate education, will, however, be available in large numbers (23,000).

4. At the secondary level, both the drop outs and certificate holders will be relatively small. competition between the labor market and higher education or training programs requiring secondary school graduates will continue to be severe.

5. The flow from institutions of higher education will be appreciable but distorted in content. About 1,000 will graduate from universities abroad and 6,400 from those within the country. However, near one-half of the latter will be from faculties of Arabic Language or Islamic Law; less than 10 percent from the sciences; about 11 percent from faculties of commerce, administration, economics, etc; 11 percent in engineering; and 20 percent from education, arts, etc.

TABLE 12

STUDENTS ABROAD GRADUATING DURING PERIOD OF THE PLAN, CLASSIFIED BY FIELD OF SPECIALIZATION AND LEVEL

Field of Specialization		Total Graduates
Engineering, Architecture, etc.		350
Medicine & Pharmacy		278
Agriculture		9
Physical Sciences		91
Biology		2
Social Sciences		9
Education		47
Administration, Law, Economics & Political Science		241
Arts, History & Archaeology		60
Languages		18
Islamic Studies		11
Other		17
Unknown		78
All Fields		**1,211**
All Students abroad in 1390 :	Bachelors	1,533
	Masters	137
	Doctors	70
		1,740

Training Programs

In defining the objectives of training and assessing its contribution to the successful implementation of the Development Plan, it is recognized that forecasts of manpower requirements can be useful in planning the nature, scope and organization of training systems. However, the rate of expansion of the economy desired and the need to replace some of the foreigners now working in the country by nationals combine to produce a total demand which is far greater than the training system, even when expanded and re-organized, could satisfy during the plan period. Training facilities may be conveniently divided into four categories:

1. Vocational training centers (including the Royal Vocational Institute of the Ministry of Education)
2. Training in private establishments
3. Training provided by ministries, departments and agencies of the Government
4. The Institute of Public Administration

Many problems were found to have an effect on the organization and execution of training programs in general. The required solutions to these problems received considerable attention in the plans of all sectors.

Vocational Training Department of the Ministry of Labor

From the inception of the vocational training centers up to Safar 1390, a total of 958 (including 44 instructors) have graduated from the training centers in a variety of trades. Total current enrollment in the four existing centers in Riyadh, Jiddah, Dammam and Buraydah, is 759. At present, only the Riyadh center is operating at full capacity, and there is potential for increasing enrollment in the other cases up to 350 from their present levels of 100 to 200. During the period of the Plan, three important steps are to be taken to increase the outpout of training centers operated by the Labor Affairs Agency. Firstly, there will be expansion of the four existing training centers. Secondly, two centers are to be operated at the begining of the Plan, in Joaf and Khamis Mushayt, after which there will be a center in each of the main administrative divisions of the Kingdom.

The annual enrollments of these six centers will be raised as early as possible to the full capacity of 350 students each, and it is expected that about 7,000 skilled and semi-skilled workers will graduate during the plan period. Thirdly, attention will be paid to the needs of the smaller towns and rural areas surrounding them by establishing six small centers, each having a capacity of 100 students, in the following locations: Mecca, Medina, Wadi Dawasser, al-Hasa, Ha'il and Ghamed, and Zahran Area (al-Baha'). At each of the six new centers, steps will be taken to develop a trade which uses local materials, if possible improves the skill of workers in important traditional handicrafts of the particular area, and thereby helps to raise the economic conditions of rural households.

Government has also considered the establishment of pre-vocational training centers. This project aims at continuing the education and training of young people in the age group 13 to 17 who graduate from the primary schools, or drop out of the educational system and cannot continue their studies. The participants will prepared to join the vocational training centers or apprenticeship programs in the private sector, and several who would otherwise remain unemployed for four or five years will now be able to spend this time in a worthwhile manner. Three centers are planned fo the initial stages of the project, one each in Jiddah, Dammam and Riyadh.

Training in Private Establishments

Up to the present time, the extent of participation of private establishments in the training of workers has been small, and only a few of the larger employers, in the manufacturing, oil, mining, and repair of motor vehicle industries, have implemented training plans for their employees. The result is that the number of Saudi workers who have been trained in private establishments in an organized manner could have been much greater. There are several reasons for the situation just described, probably the most important is that in the past there was no legal framework within which training in private establishments could be regulated or supervised by the Government, and the understanding that skilled foreigners who are granted permits to enter the country should train Saudis has not produced results of any significance. Some of these conditions will be changed during the period of the Plan and there will be greater involvement of the private sector in the training of workers, since the new labor regulations provide a legal basis for training in private establishments, and implementation of its provisions will be controlled and supervised by the appropriate divisions in the Ministry of Labor.

Training in the Public Sector

A survey of institutions and programs carried out recently showed that training activities were being undertaken, or considered for implementation, in the following places:

1. The Ministry of Agriculture
2. The Ministry of Health
3. The Ministry of Communications
4. The Ministry of Interior (Municipalities Department)
5. The Ministry of Petroleum and Mineral Resources
6. The Department of Civil Aviation
7. The Department of Meteorology
8. The Ministry of Labor and Social Affairs
9. The Customs Department
10. The Saudi Arabian Monetary Agency
11. Saudi Arabian Airlines
12. The Ministry of Education (Schools for the Handicapped)
13. Industrial Studies and Development Center
14. The Ministry of Commerce and Industry
15. Petroleum and Mineral Organisation (PETROMIN)

Some of these agencies, such as the Ministry of Agriculture and the Department of Civil Aviation, have provided for training departments within their respective administrative structures, and have also secured the services of full-time training advisers. A very brief summary of the objectives, programs and targets of a few of the more important and larger training schemes are described below (further details and descriptions of other schemes in the agencies listed above may be found in a comprehensive document on manpower resources prepared in the Central Planning Organization).

The Ministry of Agriculture

The programs planned seek to make available training courses that vary in duration from 3 weeks to 12 months in three main branches:

1. Training in farm machinery and irrigation: The implementation of this plan was started in 1389/90 and it will continue for five years in cooperation with the United Nations Special Fund.
2. Agricultural Training Plan: This plan endeavours to provide training for employees in the different agricultural areas, and implementation should commence in the middle of 1390 and continue until the end of the plan period.
3. Farmers Training Plan: Training courses will be held for farmers and farmers' sons. These courses will be held in such areas that are of concern to farmers, and will be directed towards helping them to find solutions to their immediate problems. The courses will be held in various parts of the Kingdom, and will be for short periods.

The long range objectives of the three branches of training are to provide a suitable number of Saudi technicians to assume training responsibilities and replace foreign nationals; and to train agricultural technical assistants and skilled workers in various agricultural practices. The quantitative targets which are envisioned to be achieved during the Plan are: 500 farm machinery operators; 100 agricultural technical assistants; 70 plant protection technical assistants; 70 veterinary assistants; 150 hydrology and meteorology field assistants; 150 forestry, range and soil conservation technical assistants; 400 technical farmers; 600 plant protection laborers; 60 soil survey and soil analysis field assistants; 1000 forest nursery laborers; and 20 foreign scholarships.

The Ministry of Health

There are three Health Institutes for males—one each in Riyadh, Jiddah and Safwa. Since their inauguration, the three centers have graduated a total of 532 male paramedical personnel of all kinds, with the highest number in any one year being 143. Total enrollment in 1388/89 was 502.

There is a female nurses training program for which three centers have been established. To date, both the numbers trained and currently enrolled could be described as insignificant in relation to the country's needs. Only 33 have graduated from these centers, and enrollment is presently of the order of 100. The arrangement whereby female nursing education is administered by the General Directorate for Girls Education, rather than the Ministry of Health, could be improved.

The main purpose of the training plan is to improve the quantity and quality of paramedical personnel being produced by the health institutes and female nursing schools. The planned programs seek to:

1. Expand existing health institutes and establish new ones where appropriate, so that they can accomodate the increasing enrollment expected.
2. Enlighten citizens with regard to the need for greater participation and support of health training schemes, particularly female nursing.
3. Provide training in the maintenance and repair of medical equipment.
4. Develop training in environmental sanitation and health administration.

These programs are envisioned to satisfy the following objectives:

1. Improvement of the ratio of paramedical staff per thousand of population. At present, only 515 or less than 20 percent of total paramedical staff in the Ministry of Health are Saudis. Enrollment is planned to increase to levels which will ensure the graduation of about 1450 such workers during the plan period. This will raise the representation of Saudis to 50 percent.
2. Improve the distribution of paramedical staff between urban, rural and nomadic areas.
3. Provision of living facilities for trainees and promotion opportunities for graduates of the various training schemes which should help to keep them attracted to the field of health.
4. Prepare instructors and administrators required for the institutes.
5. Provide continuous supervision, follow up and evaluation of graduates.
6. Continued cooperation with the Institute of Public Administration, American University of Beirut, WHO, UNICEF, and other organizations which are in a position to assist with the training of personnel needed by the Ministry of Health.

The Ministry of Communications

Training activities of this ministry cover three areas:

1. **Telecommunications**: The Ministry was able to conclude an agreement with the Special Fund of the United Nations and the International Telecommunications Union for the establishment of two Telecommunications and Broadcasting Training Centers, one each in Jiddah and Riyadh. The objective of the centers is to train adequate numbers of instructors, supervisory personnel, technicians and categories of staff needed from time to time for engineering, operation, administration and traffic duties connected with the telecommunications and broadcasting services. The original intention was that these centers should serve the needs of both the Ministries of Communication and Information, and the scheme represents a practical example of the possibilities which exist for the greater coordination of efforts in the field of training. The ultimate objective is to train up to 200 candidates in the Jiddah Center every year, and it is expected that the operation will be at its full capacity after 1395. The maximum output anticipated from the Jiddah Center during the period of the Development Plan is 60 assistant instructors, 55 supervisors and 135 technicians and technical assistants. No graduates are expected from the Riyadh Center until after 1395, and its level of enrollment will be fixed in the light of a future appraisal of the demand for telecommunications workers.
2. **Highway Maintenance**: The Roads Department will arrange for the training of some maintenance personnel through contractual agreements with private companies. A proposal which has been examined envisages the possibility of training 513 highway maintenance personnel such as operators of heavy equipment and mechanics during the period of the Plan.

3. **Postal Services:** Five programs have been proposed for implementation in the case of the postal services:

   a. Sending of ten middle level officials for training in the United Kingdom
   b. Establishing a National Postal School
   c. Recruitment of university graduates for training and employment in the Postal Services
   d. Provision of courses in English for postal clerks
   e. Participation in the Higher Arab Postal Institute

The feasibility of these proposals, particularly the second, will be studied during the coming months, and implementation carried through on the basis of the findings.

Department of Civil Aviation.

Some important objectives the Department is trying to fulfill during 1390 are:

1. The establishment of a Training Section and the appointment of a Saudi Training Officer responsible for this section. The Training Officer will be allowed to attend suitable courses both locally and abroad while preparing himself to take full responsibility for the section.
2. The Dhahran Training Center, which is now closed, will be re-opened in Jumad II 1390 and receive 60 students in the English language training program; the following year, it is expected that there will be an enrollment of 120 students, 60 in English language training and 60 in technical fields.
3. Enrollment levels in the Jiddah Center will be increased, efforts continued to be made to develop Saudi instructors, and actions taken to upgrade employees in several specializations. The quantitative targets set, in terms of annual enrollment for the various courses, are as follows: English Training Section, 120; Radio Maintenance Course, 20; Air Traffic Services, 15; Aeronautical Telecommunications Course, 10; Meteorological Observers Course, 15; Fire and Rescue Training Course, 12 (for Fire Officers). In addition, there will be Refresher, Advanced and Special Courses in nearly all of these areas.

The Department of Meteorology

During the period of the Plan, it has been estimated that there will be a potential demand for the following additional professional, technical and related personnel:

Present Meteorological Stations	:	49 Observers
World Weather Watch Program	:	65 Aeronautical Observers
Air Force and Aviation requirement, including a National Meteorological Center	:	35 Observers; 15 Forecasters; 25 Assistant Forecasters; 15 Research Meteorologists; 5 Climatologists (Class IV); 5 Assistant Climatologists and 5 Research Climatologists.
Agrometeorological requirement	:	35 Agrometeorological Observers; 5 Assistant Agrometeorologists and 5 Agrometeorologists.
Marine requirement	:	24 Observers
Public requirement	:	30 Observers

Accordingly, a training program has been planned, in cooperation with the King Abdul Aziz University, for the purpose of providing the Department of Meteorology with the manpower required for its expansion. This general objective includes not only the training of technicians as a terminal effort in some cases, but also the provision of sufficient background to enable some graduates of the Meteorological Center to proceed to a university degree in meteorology. A target of about 250 graduates in several specialisations have been accepted for the plan period.

Summary of Training in Ministries and Departments

Although only a few of the larger training programs are discussed above, a detailed analysis of the training activities of several ministries, departments and agencies of Government identified many common problems, in addition

to others which were directly related to the types of background they were trying to develop. The challenges associated with training the additional personnel required for maintaining and operating the services to be offered by the public sector have been accepted in most cases and in some instances, demand for trained workers will be met through contracts with local private or foreign companies.

However, there is room for the creation of a coordinated national training objective, since its formulation would bring into contact not only the agencies actively engaged in the training of personnel, but also training administrators on the one hand, and those responsible for related areas of activity, such as education, on the other. At present, each department or agency feels obliged to give instruction in the full range of subject matters necessary for trainees to successfully complete certain courses. A particular example in this case is the desire for several training centers to establish English language programs, including laboratories; since English is essential in the preparation for and practice of many technical occupations. It appears that there are possibilities for participation in a common pool or pools for training in English, and advantage should be taken of them. Other areas, such as radio maintenance and electronics, particularly at the background level, appear to offer opportunities for greater coordination.

Although the numbers graduating from many of the training schemes operated or planned by Government departments may not be significantly large in quantitative terms, they are expected to make a substantial contribution to the successful implementation of the Development Plan. The limited supply of professional, technical and skilled personnel in the Kingdom dictates that every effort should be made to ensure that the objectives outlined in each case are constantly kept in view, and follow-up action taken to make attainment of the targets set a reality.

MANPOWER REQUIREMENTS: THE PRIVATE SECTOR

By Main Industry Groups

In the preparation of Table 13, the rates of growth* of the economy that have been established as targets to be attained during the period of the Plan were taken into account. Further consideration was given to the several factors which may affect the rate of growth of employment in the various sectors.

In several industries, rate of growth of employment is expected to be 6 to 9 percent per annum, but in agriculture and petroleum, the figures are likely to be about 1 percent. The slow rate of growth of employment in the petroleum industry results from the fact that the high levels of rate of change of productivity possible in this industry facilitate reasonable increases in production with...t corresponding additions to the numbers employed. Again, although prospecting has been taking place over a much wider area during the past few years, it is not likely that these new enterprises will come into full production and therefore will require only several hundred employees during the period of the Plan.

In the case of agriculture, the constraints are formidable, but in spite of this, there has been some improvement in the total area under cultivation and level of agricultural production in recent years. An interesting feature of the agricultural sector is that a significant proportion of farmers earn a part of their income from other forms of economic activity. Indeed, in some parts of the eastern and southern regions, one survey revealed that a number of farmers derived only about 30 percent of their total income from agriculture, so that even if agricultural production were doubled, this percentage would not increase drastically; that is, agriculture's share of total income would rise only to 46 percent. Such circumstances would tend to restrain investment in agriculture, and consequently employment, in places where there are opportunities to engage in other industries.

For the nomadic group, the attractions of more stable living conditions in cities will continue to encourage bedouins to settle in urban areas and their environs, although the sedentarisation effect of specific projects designed for this purpose may have remained comparatively small. It would seem that the transfer from nomadism directly to the environs of urban areas, and consequently, to modern industries, will increase. A decline of 1 percent per annum in the nomadic labor force in the pre-plan period may become 1.5 percent during the plan period.

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* *See "Guidelines for the Development Plan of the Kingdom of Saudi Arabia", Central Planning Organization, 1389 and later unpublished adjustments prepared in CPO.*

The levels of productivity which will have to be attained in order to reach the targeted growth rates of GDP and the levels of employment which are thought to be reasonable have also been calculated and are shown in Table 13. The computations reveal that between 1386 and the end of the Plan, total requirements in the private sector will increase by 405.6 thousands, and for the period of the Plan by 261.2 thousands.* The construction, trade and service industries will each absorb more than 20 percent of the latter increase; while the other industry group with a significant additional demand, (that is, transportation, communications and storage) will account for nearly 14 percent.

TABLE 13

EMPLOYEES IN THE PRIVATE SECTOR CLASSIFIED BY NATURE OF ACTIVITY, 1386, 1390 AND END OF PLAN

Industry or Economic Activity	Annual Rate of Growth Employment		Productivity		Estimated Number of Workers (000)			Change (000)	
	86—90	During Plan	86—90	During Plan	1386	1390	End of Plan	End of Plan	During Plan
	(Percent)								
Nomads	—1.0	—1.5			151.2	145.2	134.6	—16.6	—10.6
Agriculture (settled), Fishing ,etc.	1.4	1.0	2.5	3.5	313.5	331.4	348.3	34.8	16.9
Petroleum	0.2	0.9	7.0	7.0	14.9	15.0	15.7	0.8	0.7
Mining and Quarrying (*excluding* Petroleum)	7.3	8.5	5.0	6.0	10.3	13.7	20.6	10.3	6.9
Manufacturing	6.0	6.3	5.7	6.8	41.0	51.8	70.3	29.3	18.5
Construction	8.0	7.7	3.7	4.0	104.0	141.5	205.0	101.0	63.5
Electricity, Gas, Water & Sanitary Services	10.0	10.0	4.5	4.5	8.4	12.2	19.6	11.2	7.4
Commerce	8.0	8.7	3.6	4.0	95.7	130.2	197.6	101.9	67.4
Transportation, Communications, and Storage	9.0	9.6	3.7	4.0	44.0	62.1	98.2	54.2	36.1
Services(a)	6.0	6.9	2.0	2.0	108.9(b)	137.5	191.9	83.0	54.4
Others					4.3	—	—	—4.3	—
Total or Average	**3.8**	**4.6**	—	—	**896.2**	**1040.6**	**1301.8**	**405.6**	**261.2**

(a) *Includes restaurants, hotels and other catering services, hair dressing salons etc.*

(b) *An appropriate deduction was made to take account of employees in the public sector who were included in this industry group in the base figures.*

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* *The requirements would be 271.8 thousands if the probable decline of 10.6 thousands among the nomadic group were excluded.*

By Occupation Groups and Units

After the levels of employment in the various industry groups were obtained, the occupational requirements for each industry were developed. Use was first made of an occupation-industry matrix showing the proportion of workers in each of six major occupational categories occurring in each industry group to derive the estimates shown in Table 14. Subsequently, further details at the occupation unit level were prepared.

Probably the most significant aspect of the projections (Table 14) is the comparatively large number of skilled and semi-skilled workers who will be additionally required during the period of the Plan. Nearly 56,000 such workers should join the labor force in the private sector, consisting of 13,900 mechanics, fitters and similar workers; 8,600 electricians, radio and television repairmen, and telephone installation and servicemen; and 17,800 skilled construction workers such as masons, plumbers and painters, etc. Also of equal concern, particularly for institutions and programs responsible for the development of higher education, are the more than 2,400 professional workers (those having university degrees or equivalent) who will be demanded by the private sector; and the nearly 4,000 managers of various levels.

TABLE 14

ESTIMATED MANPOWER REQUIREMENTS OF THE PRIVATE SECTOR[a] CLASSIFIED BY OCCUPATION GROUP AND INDUSTRY, 1390 TO END OF PLAN

Occupation	Agriculture[b]	Mining & Quarrying[b]	Manufacturing[c]	Construction	Electricity[c]	Commerce	Transportation	Services	Total
Managers and Administrators	15	770	260	950	280	680	390	590	3,935
Professional workers	5	290	380	420	180	90	300	780	2,445
Technicians & sub-professional workers	10	400	230	150	280	640	260	2,610	4,580
Clerical and Sales workers	40	1,010	420	480	720	59,680	2,170	2,980	67,500
Skilled and Semi-skilled workers	400	2,030	15,700	21,040	2,600	3,960	2,840	7,060	55,630
Manual and Service workers	16,430	3,100	1,510	40,460	3,340	2,350	30,140	40,380	137,710
Total	16,900	7,600	18,500	63,500	7,400	67,400	36,100	54,400	271,800

(a) *Excluding nomads.*

(b) *Mining and Quarrying includes petroleum manufacturing.*

(c) *Adjustments made to the occupation-industry matrix derived from existing data to suit changes in the occupational composition of these industries which are expected to take place during the period of the Plan.*

By Education and Training Levels

Whereas in the case of the public sector there are regulations concerning the qualifications (both formal education, training or experience) which are required for filling positions, no such framework exists for the private sector. In many instances, persons are employed according to what they demonstrate they can do rather than the certificates they hold, and therefore it is difficult to relate jobs to educational or institutional requirements. However, taking into account the manpower supply/demand situation in the Kingdom, the available education and training programs and other practical considerations concerning the employment of workers in the private sector, a guideline was developed which indicated the level of education and amount of training which should be possessed by varying proportions of new workers in each of the six major occupation groups and for each industry.

Application of this model to the total requirements of the private sector shown in Table 14 resulted in the figures shown in Table 15. Care should be exercised in interpreting these estimates. They represent the additional demands of the private sector in terms of requirements based on courses of formal education followed by organized periods of instruction in some instances. Under Saudi conditions, many workers are eventually absorbed into the skilled categories without following this normal pattern, and it is to be expected that this method of acquirement of skill (that is, by observation and practice) will continue for some time. The figures in Table 15, should therefore, be viewed as a particular way of quantifying needs; there are other alternatives or equivalents which will have to be used in the interim.

TABLE 15

ESTIMATED MANPOWER REQUIREMENTS OF THE PRIVATE SECTOR CLASSIFIED BY EDUCATIONAL ATTAINMENT, TRAINING OR EXPERIENCE, AND OCCUPATION GROUP, 1390 TO END OF PLAN

Occupation Group	Educational Level				Additional training or experience, years
	University	Secondary	Intermediate	Primary & below	
Managers and Administrators	280	620	1,180	1,875	5—10
Professional workers[a]	2,445	—	—	—	—
Technicians and other sub-professional workers	—	900	3,780	—	3—4
Clerical and Sales workers	—	—	1,060	—	2—3
	—	—	—	5,210	1—2
	—	—	—	61,230	0—1
Skilled workers	—	—	4,000	—	2—3
	—	—	—	31,630	2
Manual and Services workers	—	—	440	18,830	1—2
	—	—	—	118,4[illegible][b]	0—1

(a) *Those recruited as professional workers will not all be recent university graduates, some would be required to have completed a training course or acquired working experience prior to appointment.*

(b) *Most of these will have much less than a primary certificate and may be unable to read or write in addition to having no training in any skills.*

MANPOWER REQUIREMENTS: THE PUBLIC SECTOR

Total Employment

From 1388-89 to 1389-90, total employment in the public sector increased by 1.9 percent, compared with 14.9 percent for the period 1383-84 to 1384-85. In establishing the levels of employment which are likely to occur in the public sector in future years, several factors were taken into account:

1. Manpower requirements contained in the sectoral (agriculture, health, etc) plans prepared by the several ministries, departments and agencies;
2. Past trends in the levels of employment in the public sector as a whole;
3. Recent statements of policy with regard to the recruitment of public service personnel;
4. The stage of development of the various ministries and departments;

5. The effect of the targets (rates of growth of GDP) set for the several fields of economic activity during the period of the Plan; and,
6. Returns received from a survey of employees in the public sector carried out in 1389-90.

Items 5 and 6 above are of special significance, particularly in view of the fact that development allocations under several headings in the budget, (for example, communications) are spent largely through the private sector and therefore, do not directly affect the number of employees in the public sector to a marked degree. The final results obtained after application of these criteria are shown in Table 16. They indicate that during the period of the Plan, employment in the public sector will increase by about 46,500, with 39,000 of this increase in cadre grades.

TABLE 16

EMPLOYMENT IN THE PUBLIC SECTOR IN SELECTED YEARS AND BY THE END OF THE PLAN
(Thousands)

	1381-82	1385-86	1388-89	1389-90	End of Plan
Cadre	35.7	66.4	79.7	81.8	120.8
Non-Cadre	33.3	48.5	55.7	56.2	63.7
Total	**69.0**	**114.9**	**135.4**	**138.0**	**184.5**

Employment in Ministries and Departments

Several of the agencies having responsibility mainly for administrative, clerical and related functions will continue growing at the normal rate dictated by their history and the stage they have reached in the development of the services which they have been assigned. In others, such as communications, employment will be affected by the expenditure of development funds and projects included in the Plan, although many of these schemes will be implemented through contractors. In some cases, for example health and education, planned improvement and expansion of services will necessitate significant increases in the numbers employed, and the projections were made to reflect these intentions. For the Ministry of Labor and Social Affairs, enforcement of the labor regulations issued by Royal Decree in 1389, establishment of offices in connection with the setting up of an employment service, and increasing the number of vocational training centers, are some of the programs contributing to the comparatively high growth projected for this ministry.

For agriculture, an allowance was introduced for the fact that, during the next few years, efforts will continue to be made to: increase the area under cultivation; improve and complete drainage and irrigation projects; raise levels of production (implying greater mechanisation of farms in addition to other means); and provide better facilities for the marketing of crops and settlement of nomads.

These activities will necessitate the employment of many additional workers, particularly in the extension services, some of whom will be in the technician and skilled categories. The end result of all these considerations are summarised in Table 17 where the probable total number of cadre workers in several of the major employing ministries and departments are shown. Figures for non-cadre personnel are grouped and are not given separately for each ministry. It is to be emphasized that these figures represent envisaged needs taking into account all known circumstances, and that they may not exactly coincide with the number of positions actually budgeted in future years.

By Level of Education and Skill

Cadre

After the total requirement for cadre grades in each ministry or agency was established, information on the structure of employment was used to obtain distributions by level of education and skill. These were prepared and are available for each of the employing units, and summarised below. It is expected that the additions to employment in the public sector in cadre grades will be distributed as follows:

University Degree — (mainly for professional and some administrative positions)	8,799
Technician — (requiring an intermediate to secondary certificate plus 1 to 3 years training, depending upon occupation)	3,213
Skilled — (primary plus two years training)	3,062
Secondary Certificate	15,001
Intermediate Certificate	6,349
Primary Certificate	2,606
Total	**39,030**

TABLE 17

LEVEL OF EMPLOYMENT OF CADRE (CLASSIFIED BY MINISTRY OR DEPARTMENT) AND NON-CADRE PERSONNEL AT THE END OF THE PLAN

MINISTRY, DEPARTMENT OR AGENCY	TOTAL CADRE EMPLOYEES	
	End of Plan	Change in Plan Period[a]
General Personnel Bureau	415	100
Ministry of Information	1,460	300
Ministry of Foreign Affairs	690	100
Ministry of Labor and Social Affairs[b]	3,600	1,590
Ministry of Communications and Railways[c]	7,000	950
Ministry of Agriculture	3,640	910
Ministry of Health	8,200	2,200
Ministry of Commerce and Industry	590	100
Ministry of Education[d]	62,150	27,500
Ministry of Interior[e]	10,920	700
Ministry of Finance, including Budget, Statistics, O & M Department, etc.	1,980	450
Customs Department	1,700	130
Zakat and Income Tax	425	130
Ministry of Petroleum and Minerals	745	220
Pilgrimage and Waqfs	790	120
Judiciary	2,140	130
Department of Civil Aviation	1,580	660
Department of Meteorology	470	270
Others	12,345	2,470
Total Cadre	**120,840**	**39,030**
Total Non-Cadre	**63,700**	**7,500**
GRAND TOTAL	**184,540**	**46,530**

(a) *In 1389-90, budgeted cadre and non-cadre employees totalled 81,764 and 56,204 respectively.*

(b) *Includes the General Bureau, Labor Department, Social Affairs Department and Vocational Training Centers.*

(c) *Includes the General Bureau, Posts, Roads, Railways, Ports, Telegraph and Telephone.*

(d) *Includes the General Bureau and Institutions for boys' and girls' education supervised directly by the Ministry of Education and the Directorate for Girls Education and Teacher Training Institutes. Excludes schools, colleges and institutes established primarily as institutions for religious instruction and universities.*

(e) *Includes Emirates, Municipalities, Coast Guard, Passport Department, etc.*

The figure for the secondary certificate appears large because primary school teachers (those require intermediate certificate plus three years in a teacher training institute) have been included here. Similarly, teachers for whom a university degree should be necessary are contained in that group. These calculations reveal that there will be a significant additional demand for high level personnel (university graduates), and that requirements for technicians and skilled workers will be appreciable. If the needs of education were omitted from the categories for intermediate or secondary school certificates, it will be found that opportunities for the employment of persons with academic qualifications only at these levels and without training in specific skills will be comparatively small. Apart from the Ministry of Education, all other ministries and agencies will employ only an additional 500 workers with high school and secondary school certificates and 1600 workers with intermediate school certificates.

Non-Cadre

The non-cadre branch is a conglomerate one, consisting of persons with a wide range of skills. At one end of the scale there are office boys, messengers, watchmen, teaboys and laborers who do not need to have any educational background or training. These were all classified as manual. At the other end of the scale, there are skilled or semi-skilled workers such as mechanics, plumbers, electricians, telephone operators, welders, typists, nurses, midwives, operators of various equipment, etc. These have all been grouped in the skilled category. Religious workers, clerical personnel and drivers of vehicles used for transporting government employees are some of the other important groups of workers found among non-cadre grades.

The approximately 7,500 non-cadre personnel to be appointed during the period of the Plan are not likely to be distributed in the manual category, since there should be less emphasis on light manual workers. Relatively larger proportions may be used in agricultural extension work, health, communications and for clerical duties.

MANPOWER REQUIREMENTS OF PETROMIN

The Petroleum and Mineral Organization continues to expand and widen its range of activities, either independently or in association with foreign companies. The emphasis remains concentrated on capital-intensive and highly mechanised units, with the result that there is comparatively high demand for skilled workers (with the exception of basic mining operations). The companies managed by, or associated with, Petromin during 1389 had a total complement of over 2,000 workers as shown in Table 18.

TABLE 18
EMPLOYEES IN PETROMIN AND ASSOCIATED COMPANIES CLASSIFIED BY OCCUPATION GROUP — 1389

Enterprise or Company	Directors & Managers	Professionals	Technicians	Skilled	Clerical	Manual	Total
Argas	4	11	15	74	20	176	300
Arabian Drilling Co.	10	22	30	148	30	210	450
Jiddah Oil Refining Co.	25	24	36	140	75	117	417
Saudi Arabian Tanker Co.	3	1	—	—	6	—	10
Saudi Arabian Fertilizer Co.	8	35	61	284	20	92	500
Steel Rolling Mill	6	8	12	60	29	60	175
Marketing and Bulk Plants	20	6	9	45	60	50	190
Head Office	30	15	5	—	70	30	150
Total	**106**	**122**	**168**	**751**	**310**	**735**	**2,192**

Source : Petroleum and Mineral Organization.

Certain of the projects now in operation are likely to be expanded, while some new ones are actually in the process of implementation or are under consideration. Estimates have been made of the additional manpower requirements of each of Petromin's projects by level of skill for the plan period, and it appears that these will reach a total maximum of 3,800 workers, distributed as follows: managers, 70; professional, 450; technician, 730; skilled, 1,130; clerical, 300; manual 1,120; **Total 3,800.**

TOTAL MANPOWER REQUIREMENTS OF THE KINGDOM

By Sector and Industry Groups

A summary of total employment by sectors and industry groups for the three reference years 1386, 1390 and the end of Plan is given in Table 19, and the corresponding percent distributions in Table 20. These figures imply that during the period of the Plan the additional demand for manpower will total 311,500. Volume of employment will rise from 1,180,700 in 1390 to 1,492,200 by the end of Plan, an increase of 26.4 percent. The private sector will absorb the largest part of this increase, 261,200 or nearly 84 percent.

TABLE 19

ESTIMATES OF TOTAL EMPLOYED IN 1386 AND TOTAL MANPOWER DEMAND IN 1390 AND END OF PLAN BY SECTORS AND INDUSTRY

Sector or Nature of Activity	Estimated No. of Workers Required (thousands)			Rate of Growth (percentage)	
	1386	1390	End of Plan	1386-90	During Plan
Private Sector	**896.2**	**1,040.6**	**1,301.8**	**3.8**	**4.6**
Nomads	151.2	145.2	134.6		
Settled Agriculture	313.5	331.4	348.3		
Petroleum	14.9	15.0	15.7		
Mining & Quarrying	10.3	13.7	20.6		
Manufacturing	41.0	51.8	70.3		
Construction	104.0	141.5	205.0		
Electricity, Gas, etc.	8.4	12.2	19.6		
Commerce	95.7	130.2	197.6		
Transportation	44.0	62.1	98.2		
Services	108.9	137.5	191.9		
N A D	4.3	—	—		
Public Sector	**110.0**[a]	**138.0**[b]	**184.5**[b]	**5.8**	**6.0**
Petromin	**0.4**	**2.1**	**5.9**	**52.0**	**23.0**
Total or Average	**1,006.6**	**1,180.7**	**1,492.2**	**4.1**	**4.8**

(*a*) *Number actually employed.*

(*b*) *Number budgeted.*

TABLE 20

PERCENTAGE DISTRIBUTION OF PERSONS EMPLOYED IN 1386 AND TOTAL DEMAND IN 1390 AND END OF PLAN BY SECTOR AND INDUSTRIES

Sector or Nature of Activity	Percentage Distribution of Workers		
	1386	1390	End of Plan
Private Sector	**89.03**	**88.13**	**87.24**
Nomads	15.02	12.30	9.02
Settled Agriculture	31.16	28.07	23.34
Petroleum	1.48	1.27	1.05
Mining & Quarrying	1.02	1.15	1.38
Manufacturing	4.07	4.39	4.72
Construction	10.33	11.99	13.74
Electricity, Gas, etc.	0.83	1.03	1.31
Commerce	9.51	11.03	13.24
Transportation	4.37	5.26	6.58
Services	10.83	11.64	12.86
Others	0.41	—	—
Public Sector	**10.93**	**11.69**	**12.36**
Petromin	**0.04**	**0.18**	**0.40**
Total	**100.00**	**100.00**	**100.00**

From Table 19, it is observed that whilst employment in all three sectors (public, private and Petromin) will grow, there is some difference in the nature of their rates of growth. For example, in the private sector, employment will grow appreciably faster than it did in the past, whereas in the public sector it will grow at 6.0 percent per annum compared with 5.8 percent in the past. These differentials in growth rates reflect the continued diversification and expansion of activities in the private sector on the one hand, and the maturing and consolidating influences affecting employment in the public sector on the other.

The percentage contribution of the sectors to the total employed is likely to suffer little change from 1386 to the end of the Plan. The private sector's share will remain at about 88 percent and the public sector's at 12 percent. However, there will be some significant changes in the industrial composition of the private sector:

1. The slow rate of growth of the numbers engaged in agriculture (see Table 14) will result in a decline in the percentage contribution of this industry to total employment. In 1386, settled agriculture's share of the employed was 31.2 percent. This is expected to decline to 28.1 percent in 1390 and to 23.3 percent by the end of the Plan. A similar trend is applicable to the nomads.
2. The proportion of the total employed engaged in several other industries of the private sector will increase, notably construction, commerce, services and transportation, evidence of the increased activity in many phases of the economic life of the country during recent years and which will be continued during the period of the Plan.
3. Whereas in 1386 (with the exception of agriculture and nomadism) the public sector was the largest single employer of labor, the situation is expected to change during the coming years. Construction, services and commerce in the private sector are all likely to have more than the numbers employed directly by the Governmnet by the end of the Plan.

The observations made in items 1 and 2 above are consistent with the tendency in developing countries towards a steady decline in the relative importance of the labor force employed in agriculture and an increase in the size of the industrial labor force, both relatively and absolutely.

By Education, Training and Levels of Skill

The education and training requirements corresponding to different levels of skills and occupations vary considerably due to differences between standards and employment practices in the various sectors and industries. This makes it difficult to summarise these details in any but the simplest form, which is provided in Table 21. Manual and unskilled workers will account for 142,000 or 44 percent of manpower requirements during the period of the Plan, but other categories will also contain significant numbers. The indicated demand for about 62,000 skilled and semi-skilled personnel, when coupled with the several thousands who will be needed at the highest levels, should pose serious problems for education and training facilities and the recruitment machinery (See Fig. 5).

Replacements Required

The extent of the requirements indicated in the previous paragraphs are the absolute minimum, since the calculations did not take into account:

1. Desirable qualitative improvements in those currently employed.
2. Replacement of many who were recruited before or during the Plan period, since there may be appreciable turnover among foreigners, particularly in the professional, technical and skilled categories.
3. The need to replace some of the foreigners in the labor force in order to ensure a greater participation of Saudis, especially in certain occupations.
4. Replacements due to retirements, deaths and resignations of Saudis.

While it may be useful to make quantitative assessments of the additional requirements arising from the above it may fairly be stated that there is insufficient data to provide a worthwhile basis for an examination of certain aspects of these replacement needs. In the case of the first item in the list, it is well recognized that the efficiency of workers in both the public and private sectors could be increased if they were able to participate in upgrading or in-service training programs to a greater extent than at present.

MANPOWER SUPPLY AND DEMAND BY SELECTED OCCUPATION GROUP

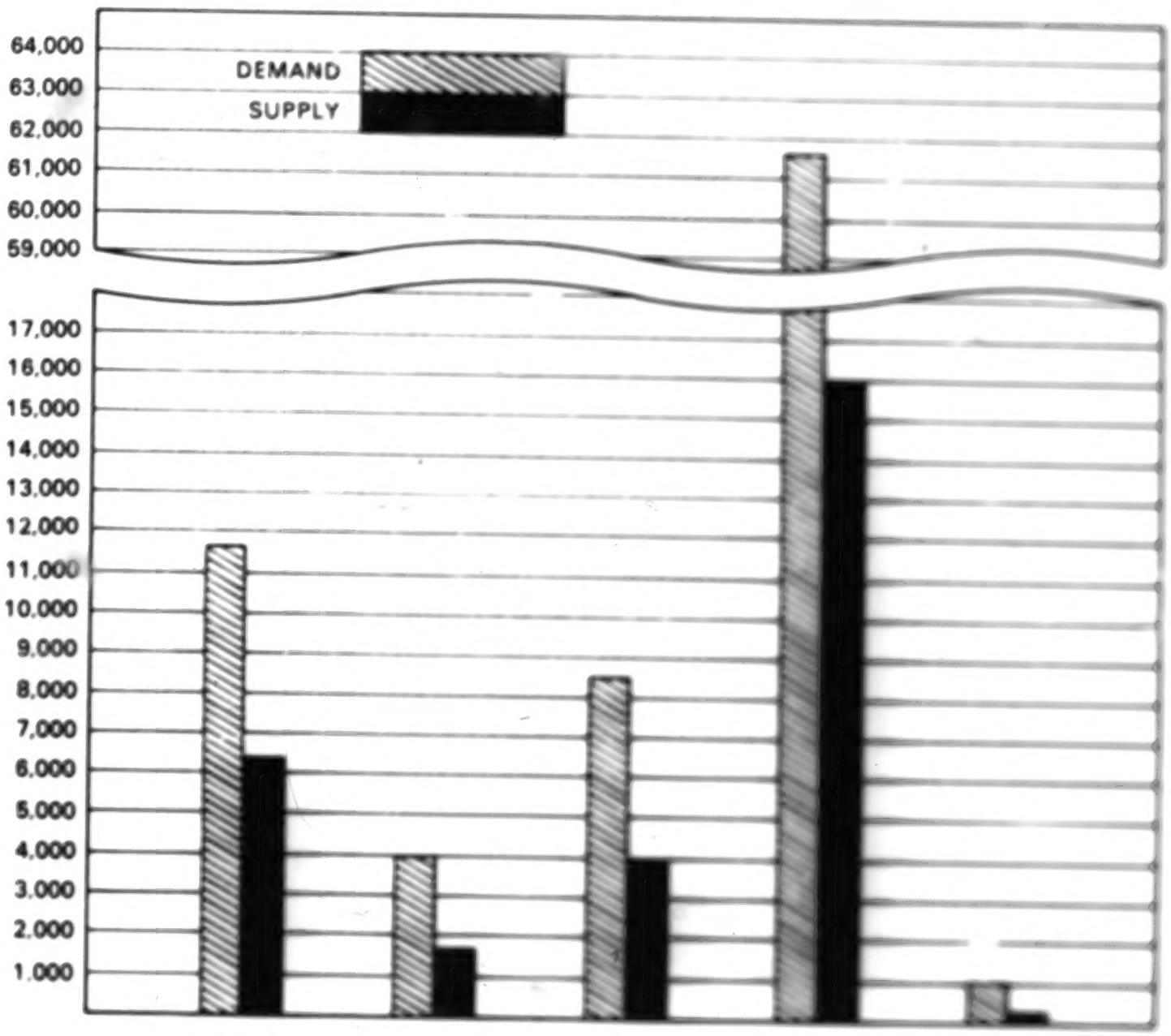


TABLE 21

SUMMARY OF MANPOWER REQUIREMENTS BY EDUCATION, TRAINING, AND LEVELS OF SKILL, 1390 TO END OF PLAN

Education, Training or Level of Skill	SECTOR				
	Public		Private	Petromin	Total
	Cadre	Non-Cadre			
Managers and Administrators (*a*)	—	—	3,935	70	4,005
Professional	—	—	2,445	450	2,895
University Degree (*b*)	8,799	—	—	—	8,799
Technician: Intermediate to Secondary Certificate plus 1 to 3 years training	3,213	—	4,580	730	8,523
High School or Secondary Certificate	15,001	—	—	—	15,001
Intermediate Certificate	5,349	—	1,060(*c*)	300	7,709
Primary Certificate	2,606	1,100(*d*)	66,440(*c*)	—	70,146
Skilled and Semi-skilled	3,062	1,900	55,630	1,130	61,722
Unskilled	—	3,000	137,710	1,120	141,830
Drivers	—	750	—	—	750
Religious workers	—	750	—	—	750
Sub-total	**39,030**	**7,500**	**271,800**	**3,800**	**322,130**
Nomads	—	—	(—10,600)	—	(—10,600)
Total, all Sectors	**39,030**	**7,500**	**261,200**	**3,800**	**311,530**

(*a*) *Numbers for managers and administrators for the Private Sector and Petromin include some with university degrees.*

(*b*) *University Degree, in the case of the Public Sector, includes not only professional workers but also teachers in intermediate and secondary schools and teacher training colleges, and some managers and administrators.*

(*c*) *Clerical and Sales: Some of these will need training in addition to a basic primary or intermediate education, as discussed in the text.*

(*d*) *These are clerks in offices.*

MANPOWER SUPPLY AND DEMAND DURING THE PLAN PERIOD

Necessary Immigration

For the purposes of Table 22, supply is taken as the employed section of the labor force which is due to natural increase of the population*. Other members of this labor force are assumed to be in voluntary or frictional unemployment.

TABLE 22

TOTAL SUPPLY AND DEMAND FOR MANPOWER, 1390 AND END OF PLAN

Year	(Thousands)	
	Supply	Demand
1970	1165.4	1180.7
End of Plan	1376.2	1546.1(*a*)

(*a*) (*Growth of the economy 1,492.2 various replacement needs 53.9*)

* *Excluding net external migration from 1388 onwards.*

The following observations can be made from Table 22 and other data:

1. The rate of growth of the population and labor force will be higher during the period of the Plan than in the immediately preceding five years. During the plan period, the addition to the labor force will be approximately 225,000.

2. During the plan period, supply (due to natural increase of the labor force alone) will increase by 210,800. Demand will correspondingly be augmented by the following numbers of jobs during the same period.

Public Sector	46,500	
Private Sector	261,200	
Petromin	3,800	
Sub-Total	311,500	Due to growth of the economy (see Table 21)
	53,900	Replacements
Total	365,400	

3. Demand for manpower during the period of the Plan is likely to exceed supply arising from natural increase of the labor force alone by nearly 154,600 (365,400 - 210,800), as shown in Fig. 6.

Manpower Supply Deficiencies

In the preceding section, it was shown that there will be an absolute shortage of manpower during the plan period and the manpower shortage was quantified. This deficiency will not be spread uniformly over all levels of education and training, skills or occupations, and it is useful to establish the main areas in which anticipated demand will not be satisfied in order to provide a basis for any necessary re-orientation of programs for human resource development. In Table 23, various elements of demand are re-stated, and the extent of, and sources from which any portion of these demands may be met, are also shown.

At the highest levels, those requiring education and training up to the standard of a university degree, the imbalance will be of the order of 4,600. In the next group (top level managers and administrators), the process of promotion in the public sector will result in most of the managerial positions not requiring university—type education being filled by local recruitment, and further, the Institute of Public Administration, through its various training programs, will enhance the prospects of currently employed public officials being appointed to these positions. However, in the private sector, management development programs are rare. It appears that after allowing for promotion possibilities and other sources of supply, there will still be a gap of about 2,300.

In the case of skilled and semi-skilled workers, demand will exceed supply by a substantial amount, nearly 46,000 if we confine our attention only to those who will acquire skill by completing formal training courses. However, it is well known that many are eventually classified in this category after gaining some work experience, but it is difficult to estimate the numbers who enter through this means. It is probable that the number of skilled and semi-skilled workers which will have to be recruited from outside the country may be of the order of 30,000 to 35,000.

Policies and Measures

In the preceeding pages, several aspects of the Kingdom's manpower situation were examined, and the human resource implications of continued growth isolated and quantified. The Government recognises that many of the factors contributing to present manpower problems cannot be completely adjusted during the period of the first plan, but is confident that implementation of the policies and measures outlined below will lay a good foundation on which continued progress may be achieved.

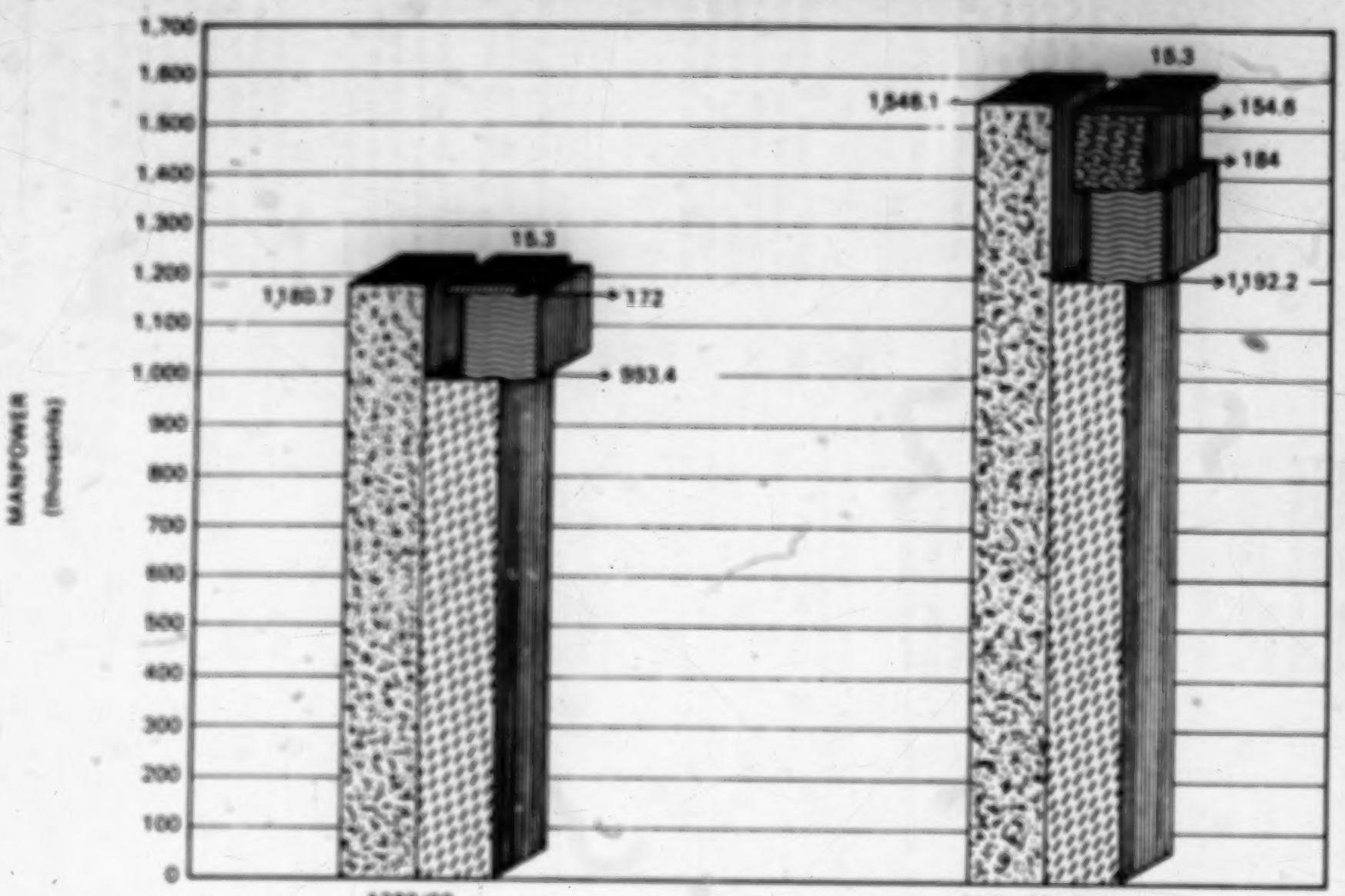
Specific Policies

The Central Role of Education and Training. The Government recognizes the important part which the formulation and implementation of appropriate education and training policies can play in providing the qualified manpower required for continued social and economic development. These policies contribute to the fuller utilization of the country's human resources by:

1. Enabling a greater number of Saudis to fill vacant positions;
2. Providing an opportunity for many to take advantage of the vacancies which will arise as a result of the continued growth envisaged by the Plan;
3. Facilitating a more widespread representation of Saudis in all occupations;
4. Making possible replacement of some foreigners currently working in the Kingdom.

Fig. 8

AVAILABLE MANPOWER AND DEVELOPMENT REQUIREMENTS



DEMAND

SUPPLY (SAUDIS)

SUPPLY (NON-SAUDIS)

DEFICIT DUE TO INCREASE REQUIRED BY DEVELOPMENT

DEFICIT AT BEGINNING OF PLAN

INCREASE REQUIRED BY DEVELOPMENT	365.4
NORMAL INCREASE IN MANPOWER	210.8
DEFICIT DUE TO INCREASE REQUIRED BY DEVELOPMENT	154.6
DEFICIT AT BEGINNING OF PLAN	15.3
TOTAL DIFICIT TO BE COVERED BY ADDITIONAL NON-SAUDIS	169.9

TABLE 33

SUMMARY OF MANPOWER SUPPLY-DEMAND SITUATION BY EDUCATION, TRAINING AND LEVELS OF SKILL

Demand by Type and Sources		Supply by Sources		Remarks
Professional Workers Requiring University Degrees		Local institutions of higher education	6,400	Deficiency of 4,600 has to be filled by immigration. This reduced difference between supply and demand assumes that all graduates from institutions of higher education are employable. As shown previously, 3,000 will graduate from faculties of Arabic Language or Islamic Law, and therefore, the gap to be filled by foreigners will be of special types, e.g. Medicine, Sciences, Engineering.
Public Sector (including managers requiring University degree)	2,300	Overseas program	1,000	
Private Sector	2,450		7,400	
Teachers and Educational Administrators requiring University degrees	6,600	Less 300 joining the private sector as managers and administrators	—300	
Petromin	450		7,100	
	11,700			
Managers and Administrators		By process of promotion in the private sector	1,360	Demand exceeds supply by 2,300. Foreign recruitment may not be as high as indicated, since several positions may be kept vacant or some ad-hoc arrangements made for the execution of the associated functions.
Private Sector	3,930	University graduates	300	
Petromin	70	Petromin training	40	
	4,000		1,700	
Technicians and Other Sub-professional Workers		Training programs of the various Ministries & Government Agencies	1,500	Facilities for training within the Kingdom at this level are very limited.
Public Sector	3,200	Private sector	900	There is no alternative to recruitment of foreigners.
Private Sector	4,580	Petromin	200	
Petromin	730	Secondary vocational schools	1,400	
	8,510		4,000	
Skilled and Semi-skilled Workers		Training programs of the various Ministries & Government Agencies	2,500	The magnitude of the difference, 45,700 workers, will depend on the extent to which unskilled members of the labor force might be upgraded through various ad-hoc means and become qualified for inclusion in this category by virtue of experience
Public Sector	5,000	6 existing Vocational Training Centers	7,000	
Private Sector	55,600	6 new small Vocational Training Centers	3,000	
Petromin	1,100	Apprenticeship and In-plant training programs	3,500	
	61,700		16,000	
Workers with Secondary, Intermediate or Primary Certificates: Public Sector		Boys' and Girls' Primary Teacher Training Institutes	13,100	If we omit teachers from the analysis, the situation could be described as varying from 'somewhat inadequate' to 'more than ample' in going from secondary through intermediate to primary. No immigration will be necessary for workers with academic education only at these levels and no training or work experience.
Secondary — Teachers & Educational Administrators	14,500	Boys' Secondary Schools	400	
Secondary — Others	500	Girls' Teacher Training Institutes	2,000	
	15,000			
Intermediate — Teachers & Educational Administrators	4,700	Boys' Intermediate Schools	2,000	
Intermediate — Others	1,600	Girls' Intermediate Schools	14,500	
	6,300			
Primary	2,600	Boys' Primary Schools	More than ample supply	
Clerical and Sales Workers:		Secondary Vocational Schools	350	
Private Sector				
1st Class—Intermediate plus 2—3 years training	1,060	Boys' and Girls' Primary & Intermediate Schools without any training, and ad-hoc training in establishments		
2nd Class—Primary plus one year or less of training	5,210			
3rd Class—Less than full primary certificate and less than one year training	61,230	Drop-outs from the educational system at the primary level		
Manual and Service Workers (Mainly Unskilled)		Natural growth of the labor force		
Public Sector	3,000			
Private Sector				
1st Class	450			
2nd Class	18,800			
3rd Class	118,450			
Petromin	1,100			
	141,800			

Restructuring Education and Training. The Government intends to take the necessary steps to restructure the educational system and make it more relevant to the needs of the society. The specific policies to be implemented during the period of the Plan include:

1. Enrollment of all age groups will be increased both absolutely and relatively.
2. The percentage of successful students proceeding to the next higher level, or a different type of education or training, will be fixed. For example, provision will be made to ensure that 85 percent of boys completing primary education will continue on to intermediate education. Likewise, 85 percent of those successfully completing intermediate school will continue to either general secondary, elementary teacher training, or vocational technical education.

The implementation of these policies will have several beneficial effects. First, increased levels of enrollment, will, in the long run, ensure improvement in the quality of the labor force due to improved literacy. Second, the high continuation ratios set indicate that a higher proportion of students will complete their education. Third, there will be a greater supply of candidates with an adequate background which will enable them to benefit from training in professional and technical fields. Fourth, and probably most important, guidelines for the distribution of students among the three levels of academic education, teacher training, technical education, etc., will facilitate adjustment of present distortions in the Kingdom's education and training pyramid.

Skill Formation and Improvement. For purposes of formulating policies and implementing them, technical education, vocational and other forms of training may be classified into five categories:

1. Technical education programs of the Ministry of Education;
2. Vocational Training Centers operated by the Ministry of Labor;
3. Training Programs operated by the several ministries and departments of the Government;
4. The Institute of Public Administration;
5. Training in private establishments.

The Government intends to continue the support of the technical education programs administered by the Ministry of Education, which includes modern intermediate schools, secondary vocational schools (industrial, agricultural and commercial), technical institutes, and higher technical institutes. The implementation of projects already planned will be facilitated, the scope and range of courses being offered in existing institutions will be widened, and technical education will be allocated an adequate supply of new entrants in relation to the available total and the needs of other branches. At the same time, the results of the orientation programs being undertaken in modern intermediate schools will be studied with a view to making adjustments where necessary.

The policy in the vocational training category is a continuous exploration of directions in which the activities of Vocational Training Centers may be expanded, and development of courses in skills which are in short supply or which attract large numbers of foreigners, and at the same time, do not require prolonged periods of training. In addition to the centers already in operation in Riyadh, Dammam, Jiddah and Buraydah, and those planned for al-Jauf and Khamis Mushayt, the Government intends to establish six other centers in smaller towns. In the latter, particular attention will be paid to training and development of skills in trades which are peculiar to the respective rural areas surrounding these towns, thereby making a contribution to rural development.

Generally, the Government's policy in relation to training programs administered by various ministries and departments with a view to satisfying their own requirements will be one of active support. Agencies such as those in the fields of agriculture, health, civil aviation, meteorology and communications, to name only a few, will be helped in a manner which will enable them to overcome manpower deficiencies in their respective fields. It is also the Government's intention to ensure greater coordination of the activities of the several training agencies through the manpower machinery.

The Government expects that private establishments will make a greater contribution to the training of workers than hitherto. Indeed, the demand for technicians, skilled and semi-skilled workers is so great that the resources of the Government alone will be insufficient to solve the problem within a reasonable time. The Government's policy in this field is summarized in Article 44 of the Labor and Workmen Regulations which provides that every employer having 100 or more employees should train in technical jobs a number of his Saudi workmen that is not less than 5 percent of the total number of workers.

The Government will give consideration to assisting individual companies to expand existing training programs beyond their requirements to meet current needs, thereby contributing generally to the supply of skilled workers. Further, studies will be made of on-the-job training methods and techniques that private employers have used for training and upgrading Saudi workers, and, where appropriate, their experiences will be used to help other employers establish similar programs.

Apart from additions to the number of skilled workers which will take place through enrollment in the regular technical education and vocational training programs operated by the Ministries of Education and Labor respectively, or are being trained as technicians and craftsmen on a systematic basis within private establishments, there are others, in both the public and private sectors who could benefit from training. In the case of employees in the public sector, the Institute of Public Administration and the various programs undertaken by the several ministries and departments will be the major instruments. For workers in the private sector, the Ministry of Labor and Social Affairs, in cooperation with the Industrial Studies and Development Center and employers, will give consideration to the problems connected with the development of a coordinated scheme for skill improvement of workers. The scheme should be comprehensive and will include training for foremen and supervisors.

The Ministry of Labor will utilize the installations, equipment and facilities of vocational training centers for the further training of presently employed workers to the fullest extent possible. The Government recognizes that in order to ensure the success of skill improvement programs, there should be simultaneous expansion of the adult education schemes being undertaken by the Ministry of Education. Steps will be taken to raise the educational attainment of the labor force so that it may benefit from upgrading schemes.

High Level Manpower. Generally, the Government will continue its policy of supporting the development of higher education, both locally and the overseas scholarship program; and in addition will facilitate the opening of new faculties in institutions in the Kingdom which can provide qualified high level manpower in fields in which severe shortages are being experienced. In the execution of this policy, it will be necessary to encourage students to study in fields which will contribute to the national effort. Emphasis will be placed on the following specialties in extending assistance to students:

- Communications Engineering
- Aeronautical Engineering
- Agricultural Engineering, with emphasis on:
  - Use of farm implements and agricultural equipment
  - Irrigation and drainage
- Agronomy
- Plant Pathology
- Entomology
- Livestock Production
- Veterinary Medicine
- Farm Management
- Pharmacy
- Industrial Hygiene
- Business Administration
- Accounting
- Library Science
- Rural Sociology or Anthropology
- Institutional Management
- Statistics
- Psychology
- Languages
- Hospital Management
- Education specialists with emphasis on:
  - Use of Audio-Visual aids
  - Testing of aptitudes and achievement, etc.
  - Guidance and counselling
  - Teaching of slow learners, handicapped, etc.
- Medicine, with emphasis on:
  - Obstetrics and gynecology
  - Pathology
  - Bio-Chemistry
  - Microbiology
  - Nursing education
- Public Health, Nutrition, Maternal and child care.

Teacher and Instructor Shortage: Note has been taken by the Government of manpower development problems resulting from a shortage of teachers and instructors for general and technical education, vocational training programs and several other forms of skill improvement schemes. Suitable steps will be taken to overcome these problems.

Better Utilization of Human Resources

Current manpower problems and other considerations dictate that the best use and maximum output be obtained from available human resources, and that obstacles to the achievement of such a situation should be removed. The negative impact of social customs and traditions on the productive capacity of the labor force has been referred to in a number of reports, and although so far there has been no rigorous investigation of the problem and its consequences, it is believed to be sufficiently important to warrant attention in the country's manpower development programs.

The Government also recognises that responsibility for changes in thinking do not rest exclusively with individuals. Effective utilization of personnel involves their proper placement and detailed knowledge of their duties and responsibilities. For workers in the **public sector**, the Government, as represented by the Administrative Reform Committee, the General Personnel Bureau, the Organization and Methods Department and other concerned agencies, will continue in their efforts to fill these important gaps by finalising and implementing a program of administrative reform which includes:

1. An outline of the appropriate organizational structure of each ministry, department, agency, etc.
2. Preparation of statements on the functions and objectives of units and departments within ministries, etc.
3. Working out of staffing patterns.
4. Assessment of the types of skills and the number of each required for the execution of agreed functions. This would contribute to the elimination or reduction of the overstaffing occurring in certain places.
5. Preparation of detailed job descriptions and appropriate job titles for all posts.
6. Development of a classification scheme suitable for personnel administration in the public sector, and which takes into account the expanding range of specializations of government employees.

Also, the General Personnel Bureau, in cooperation with the Central Organization and Methods Department, will carry out the investigations and research necessary to establish the extent of underutilized manpower in the public sector, and effect proper placements in those cases which appear to require changes.

Further, the General Personnel Bureau, in cooperation with the Central Organization and Methods Department, will determine the extent to which administrative, clerical and related personnel require training, and work with the Institute of Public Administration for the development of suitable training programs within a reasonable time.

For the **private sector**, policies aimed at increased productivity will be implemented through several channels. First, the increased output from technical schools, vocational training centers, training schemes organized within private establishments, and the workers upgrading programs will have a favorable impact on productivity. Second, the new Labor and Workmen Regulations are comprehensive, and their implementation will also contribute to increased efficiency. Third, since 1386 the Industrial Studies and Development Center has inaugurated an Advisory and Extension Service for manufacturing establishments, and the Government's policy will be to continue and expand those services. For establishments in commerce, services and transportation, the Government will try to determine the extent and form in which they can be assisted to increase their productivity, particularly in relation to the development of managerial personnel, and will cooperate with the private sector in this regard. Fourth, increased productivity in rural areas will arise from the planned extension and greater coordination of rural development programs which will take place during the plan period.

Rural Development, Internal Migration and Sedentarization of Nomads

In accordance with its policy of implementing measures which will ensure the citizens' welfare, the Government has been allocating an increasing amount of funds to various rural development projects and services. Special projects were also developed for the settlement of nomads. Both the pattern and rate of flow of internal migration may have been affected by these activities.

The Government also recognizes that a further contribution to the solution of rural manpower problems could be made by greater coordination of existing services and extending their range to include the promotion of traditional handicrafts and small scale industries, and will give appropriate attention to these possibilities.

Increased Popular Participation

The Government intends to take an important step in the solution of these problems by establishing an employment service within the Ministry of Labor. The employment service will develop information which will lead to a better understanding of the labor market, and help to even out some of the existing imbalances. Besides helping to increase regional labor mobility by assisting individuals to find jobs consistent with their qualifications and experiences, up-to-date information on the supply and demand for labor in various parts of the Kingdom would have other uses, including:

1. Encouraging workers and job seekers to acquire the skills demanded by employers, and
2. Providing a basis for decisions on the location of new training facilities

Efforts will also be made by the employment service to contribute to an understanding of the cultural and other problems of occupational mobility; that is problems which might retard the assimilation of the rural and nomadic peoples into employment in the modern sector.

The employment service will use all mass media channels and work in cooperation with the Ministry of Education, training institutions, other branches of government and the private sector to educate people regarding the changing conditions and the greater part they can play in the process of development. To help in providing an adequate background for the organization of these campaigns, national labor force surveys at the household level will be carried out at the appropriate time.

Other actions to be taken by the Government will also facilitate greater participation of the population in the labor force. These include:

1. The expansion of training facilities;
2. Encouragement of the replacement of foreigners by Saudis with the required training or experience;
3. Continuation of investigations which will lead to a better understanding of the problems associated with vocational rehabilitation of the disabled.

The policies described above will generally contribute to more rational sectoral, regional and occupational distributions of manpower, and in addition, it appears that there are specific measures which the Government might usefully take to bring about a better geographical spread of its own employees. The General Personnel Bureau will develop a scheme to accomplish this purpose. Further, within the context of overall administrative reform, existing schemes of remuneration, incentives and salaries paid to Government employees will be examined to see what changes, if any, are necessary to encourage the pursuit of careers which are essential to development.

Sectoral Employment Policies

For the purpose of elucidating policies regarding specific areas of activity, it is useful to arrange implementation measures under the following broad headings:

The Private Sector

Group I

Agriculture and Nomadism

Group II

Petroleum and Petrochemicals
Mining and Quarrying
Manufacturing
Construction
Electricity, Gas, etc.

Group III

Commerce
Transportation, Communication and Storage
Services

The Public Sector (see Group IV)

Group I

The Government is aware of the difficulties of expanding subsistence farming, and it will adopt policies which are intended to improve the conditions of the population living in agricultural areas. In particular, the main objectives of the Government employment policies in the agricultural sector will be:

1. To have a low growth rate of the labor force employed in agriculture and simultaneously, a marked improvement in the productivity of labor.
2. To decrease the differentials between the incomes of agricultural workers and those in other sections of the labor force.

The realization of these objectives will demand the implementation of several neasures, and in this connection, the Government intends to:

1. Extend and improve agricultural extension work.
2. Continue its program of developing communications to rural areas through training offered in vocational training centers which are to be located in the smaller towns to help in providing the farmer with the skilled manpower required for the servicing of agricultural equipment.
3. Through more coordinated rural development programs, provide the farmer with the background and support necessary for the greater development of his potential.

Group II

In the case of this group of industries, the Government will continue to allow private enterprise to expand employment at a rate which will ensure attainment of the economic targets which have been set for these branches of activity. However, while facilitating the recruitment of workers essential for continued growth, the Government will encourage:

1. Fuller utilization of existing production facilities;
2. Training of Saudis so that they can rise to higher positions and foreigners wherever possible;
3. More efficient use of available human resources in view of the present supply-demand situation.

Group III

The general approach here will be the same as for Group II. In addition, the Government observes that thousands of young Saudis will be added to the labor force in the next few years who have had some education. The Government will take the necessary steps to ensure that a higher proportion of Saudis receive employment in this group of industries than hitherto; several clerical, sales and related occupations, formerly filled by foreigners, should become available to Saudis.

Group IV

The Government will continue to provide an expanding range of services with increased efficiency. However, since the major employing agencies, such as Education, Health, Agriculture and Interior, have already been formed, rate of growth of employment in the public sector will be only slightly higher than for the pre-plan period. Additions to total employment in the public sector, particularly in non-cadre grades, will be kept at the lowest levels consistent with financialand administrative considerations, and the optimum numbers required to carry out various functions as determined by the Central Organization and Methods Department.

Research and Studies

A wide range of information will be used in the formulation of employment policies. Although in many instances the manpower machinery will not be responsible for the collection and organization of these basic series, it will maintain an interest in them. The manpower machinery will analyze the results of a main series of basic investigations, and in addition, research will be carried out in the following areas:

1. Studies of the process of adaptation of the Saudi labor force to modernization, with a view to determining the optimum extent to which Saudis might be able to participate in the process of development.
2. Social, psychological, cultural and other factors affecting occupational and regional mobility of Saudi workers.
3. Studies of methods of measuring labor productivity in all sectors of the economy, and measures to be taken to improve them.
4. Studies of ways of achieving fuller utilization of human resources.
5. The extent, causes and consequences of internal migration: The implications of internal migration for the supply and demand of labor in various industries, occupations, regions and locations.
6. Methodology of manpower planning by economic activity and regions, taking into account local differences.
7. Research into factors affecting recruitment and retention of the services of certain categories of workers.
8. An investigation of problems affecting the employment of young persons with particular reference to:
   a. The assimilation of the newly trained and the extent of utilization of graduates of technical and vocational institutions in accordance with their specializations.
   b. These who drop out of the education stream before completing prescribed courses, including overseas programs.
9. Factors affecting the choice of fields for training.
10. An examination of records showing Saudi students studying abroad with a view to determining any changes in emphasis in the scholarship program which might be in the national interest.
11. A review of the effectiveness of education and training policies in supplying the manpower required for further development.
12. Studies of various aspects of labor supply, including:
    a. Trends in the size and distribution of the labor force.
    b. Output of education and training institutions and programs.

The manpower planning functions and the topics included under research and studies essentially require an interdisciplinary approach, and the direct involvement of several types of expertise at various stages are implied. These are:

1. General manpower assessment and planning
2. Rural manpower and employment problems
3. Training: development and coordination of the various schemes which include technical education, vocational training, training in ministries and departments, apprenticeship, upgrading, etc.
4. Employment service organization, labor market information and employment counselling
5. Youth employment and vocational guidance
6. Occupational classification and analysis

There are other areas in which work would be of interest to the manpower planning activities, such as the encouragement of small scale industries and management development and training. The Government will take the necessary steps to ensure that the manpower machinery is supplied with adequate staff and the support necessary to execute its functions.

CHAPTER V

EDUCATION, VOCATIONAL TRAINING, AND CULTURAL AFFAIRS

Stimulus for the educational and cultural development and advancement of a society through the application of expanded creative capacity in various fields comes from its educational institutions and public information system. This development is sustained and enhanced by the availability to the society of libraries, museums, historical landmarks, and cultural centers.

This section of the Plan looks specifically to the following plans:

1. Plan for general education (boys and girls), special education, and religious education.
2. Plan for the cultural development programs of the Ministry of Education.
3. Plan for vocational training.
4. Plan for information (radio and television).

The overall objectives of the development plan for education and cultural affairs are:

1. Continued expansion of opportunities for education at all levels to provide the capability at each level of accepting all qualified graduates from subordinate levels who seek enrollment;
2. Strengthening educational institutions at all levels with efforts concentrated on those measures that will improve efficiency and produce excellence in the educational program;
3. Concentrated efforts to preserve national sites of historical significance and to uncover links with past societies and cultures;
4. Improving the quality and reliability of existing radio and television broadcast system with augmentations to extend coverage to additional areas of the Kingdom.

As measured by their contribution to GDP, education services are planned to expand at an annual average rate of 19.0 percent. This is 8.3 percent more than the previous rate (10.7 percent).

EDUCATION

Introduction

Opportunities for formal education are available in the Kingdom for all elements of society from the elementary through the university level, and educational statistics have shown sizable gains in enrollment each year at all levels of education. The number of students enrolled full-time in public schools from the elementary through the secondary level increased from 373,100 in 1387-88 to 410,300 in 1388-89, a gain of 11 percent. Partial reports of 1389-90 enrollment indicate continuation of this growth trend at about the same rate.

With the addition of special education schools for the blind (Noor Institute) or the deaf and dumb (Amal Institute), students in part-time evening classes, and private school totals, school enrollment reached 441,900 in 1388-89 as compared with 400,400 in 1387-88.

Most of the students — approximately 94 percent of the total — are enrolled in general academic programs, predominantly at the elementary level. Over 80 percent of the students are attending elementary schools, a reflection of the continuous effort to expand the primary education system to accomodate a larger proportion of the elementary school-age population. The impact of this growth at the elementary level in recent years is now beginning to be felt at the intermediate level and, to a lesser degree, at the secondary school level. Between 1387-88 and 1388-89, intermediate school enrollment increased by more than 20 percent as enrollment passed the 60,000 student mark in 1388-89. Similarly, secondary enrollment has moved to the 10,000 student level in the same period.

A considerable degree of the growth in student enrollment can be attributed to the increasing interest in providing more educational opportunities for girls. In 1383-84 there were only about 32,000 girls enrolled in elementary school. By 1389-90, there were almost 115,000 girls in elementary school alone and another 10,800 attending intermediate level classes in the public system. Girl students now represent about 30 percent of the total elementary level enrollment, and as the above intermediate level enrollment totals indicate, they are responding to new provisions for further education. However, beyond the intermediate level, there is at present only one public general academic secondary school for girls and five small secondary level teacher training institutes.

A summary of all student enrollment through the secondary level is shown below in Table 24 :

TABLE 24

TOTAL STUDENT ENROLLMENT, ELEMENTARY THROUGH SECONDARY
(87/88 — 89/90 A.H.)

Schools	1387-88	1388-89	1389-90
Public			
General academic education	359,300	394,200	433,400(*a*)
Teacher training and upgrading	6,200	7,700	10,800
Vocational and technical education	900	800	800
Religious education	6,700	7,600	8,300
Special education programs	1,000	1,100	1,200
Night schools	9,200	10,200	6,300(*a*)
Private			
General academic	17,100	20,300	Not available
Total	400,400	441,900	460,800

(*a*) *Does not include enrollment in Ministry of Defence schools.*

These students, particularly those in the elementary grades, are attending schools that for the most part have been established in rented facilities or in government buildings that were originally constructed for other than school purposes. As of 1389-90, over 75 percent of the public elementary schools and about 60 percent of the post-elementary schools were rented buildings. At the elementary level, the use of rented facilities represents a reasonable short-term expedient solution to the problems associated with expansion. However, the requirements for special purpose facilities such as laboratories, libraries, practical work rooms, etc., for post-elementary schools present specifications that rental properties can seldom meet. If the expansion at the post-primary level that will be necessary to accomodate the growing elementary schools output is to be realized, school construction on a continuing basis will be necessary.

The educational system described above has had to look to a large number of contract personnel to meet the staffing requirements. Graduates of the boys' and girls' teacher training programs are not qualified for initial teaching assignments beyond the elementary school level, and teaching and key administrative positions in the intermediate and secondary levels call for college-level graduates or personnel with considerable elementary teaching experience. As of 1389-90, over 73 percent of the teaching staff in the girls' education system was non-Saudi, and the proportion of Saudi teachers in boys' education was 55 percent at the elementary level and less than 15 percent at the general secondary schools and teacher training institutes.

Higher education enrollments have also increased; however, the growth has been more modest as two of the general education institutions are still in the process of development. The College of Petroleum and Minerals began its third year program for undergraduate students in 1389-90 and did not expect to become fully operational at the undergraduate level until the 1392-93 academic year. Similarly, the undergraduate program at King Abdul Aziz University had progressed to the second regular academic year in 1389-90, with the full four-year program scheduled for the 1391-92 academic year.

Thus total regular student enrollment in colleges, institutes, and universities had moved from 3,886 in 1387-88 to 4,148 in 1388-89. The external student enrollment, which includes all female students in public institutions as well as male students in part-time programs, also increased from 925 to 1,204 during this period. King Abdul Aziz University, the only private higher education institution in the Kingdom, reported enrollment of 148 students for 1388-89, an increase over the total of 76 students in 1387-88. A breakdown of the higher education enrollment is shown in Table 25.

TABLE 25

HIGHER EDUCATION ENROLLMENT

University or College	1387-88			1388-89		
	Regular	External	Total	Regular	External	Total
Riyadh University	1,303	539	1,842	1,582	620	2,202
College of Education	229	30	259	266	60	326
College of Petroleum & Minerals	147	—	147	279	—	279
King Abdul Aziz University	76	—	76	148	—	148
Programs of Religious Colleges						
Sharia Colleges	1,427	211	1,638	1,238	294	1,532
Arabic Language College	617	145	762	440	230	670
Dawa College	87	—	87	195	—	195
Total	**3,886**	**925**	**4,811**	**4,148**	**1,204**	**5,352**

Riyadh University now has eight faculties, having initiated a Faculty of Medicine with a preparatory student enrollment of 35 in 1389-90. The Faculty of Arts and the Faculty of Commerce together account for about half of the total enrollment, the Faculty of Science and the Faculty of Engineering together have about one third of the students, and the remainder are distributed among the Faculties of Agriculture, Education, and Pharmacy.

The Riyadh University faculties operate at dispersed locations rather than at a unified campus, with the Faculties of Engineering and of Agriculture, for example, being several miles distant from the central university facilities. Because of this arrangement, the University is not able to provide departmental instruction service in common subjects for all of its students. Instead, some of the individual faculties have developed small departments to meet the needs of their students in basic subjects. As is the case in elementary and post-elementary education, some of the university facilities have been developed by converting large villas or other type buildings, with resultant shortcomings in classroom space, faculty offices, and facilities such as laboratories, libraries, storerooms, etc.

Riyadh University continues to depend on contract personnel for many of its teaching positions. However, the University is maintaining an aggressive policy of staff development through a continuous scholarship program for advanced studies abroad for graduates and teaching assistants who have demonstrated outstanding ability and who show potential for future staff positions.

King Abdul Aziz University, which began operations with preparatory year students in 1387-88, has two faculties—the Faculty of Economics and Administration and the Faculty of Arts and Human Sciences. The former has sections for public administration and business administration and the latter has a department of English language. This private university was established at a donated estate in Jiddah, and students attend without charge, as is the case in public institutions. The University looks to meeting its expenses through public donation augmented by an annual government subsidy of SR. 1.5 million. However, the most recent financial statement indicates that contributions have not met expectations and a deficit of over SR 3.6 million is reported for 1389-90.

The College of Petroleum and Minerals, having completed the first phase of its campus development program has discontinued its former policy of sending students abroad for study beyond the second undergraduate year. The College offers three programs — applied engineering, engineering science, and science — with specialties within each program. Student intake has been set at 200 students per year, a quota that was reached in 1389-90, and classes for third year students in engineering sciences are now being conducted at the college. Since the college began operation, almost all of the instructional staff and many of the key administrative positions have been held by contract personnel The turnover rate, however, has been high; 63 of the 133 persons engaged over a six-year period have terminated their service either prior to, or at the completion of, their initial contract. Despite this personnel turnover, the college has maintained academic standards and has been recognized by 96 accredited engineering universities for course credit transfer.

The College of Education and the College of Sharia in Mecca are under the jurisdiction of the Ministry of Education and represent the main source for instructors in intermediate and secondary schools. The College of Education specializes in general academic fields while the College of Sharia concentrates on religious subjects, Arabic language, and history. The facilities of both colleges are contiguous and adequate for the present level of enrollment; however, equipment and the necessary special purpose facilities are either lacking or inadequate. Religious education at the college level is also provided at the Islamic University and the colleges that extend the 5-year programs of the 37 religious institutes. The programs are directed toward the education of Islamic scholars, specialists in jurisprudence, and those who would work toward propagation of the Islamic faith.

Finally, the number of students studying abroad in higher education programs declined slightly, from 1,990 in 1387-88 to 1,937 in 1388-89. This decrease reflects in part the reduction in the number of first-time students studying abroad from 171 in 1387-88 to 111 in 1388-89. Scholarships for study abroad are being limited to critical or non-available fields within the Kingdom.

The foregoing summary of the present status of education indicates some of the areas that are considered in the Development Plan. Additional details, preserved at CPO, are presented in the individual reports and plans of the agencies and institutions that have cooperated in the formulation of the Plan.

Objectives

Educational advancement is a complicated and integrated process — expansion at one level can rarely take place without immediately or ultimately affecting other levels. The plan for education is conceived as an integrated plan that recognizes the interdependence of all elements of the educational system. Because of this interdependence of elements, any diminution of efforts at one level will have an adverse effect on all levels. Accordingly, the statements of objectives and the programs proposed to achieve these objectives while presented and discussed individually, represent a total requirement without order of preference or importance.

Objectives within the major divisions of education are as follows:

Boys' Education

1. Elementary Education

a. To increase present (1389-90) total enrollment by 55 percent by the completion of the Plan;
b. To achieve the capability of enrolling at least 90 percent of the total 6-year-old male population in the first grade at the end of the plan period;
c. To expand provisions for educational opportunities in rural areas;
d. To increase the proportion of buildings designed and constructed as elementary schools by 11 percent during plan period;
e. To initiate a pilot school meal program, beginning in the 1391-92 school year.

2. Intermediate Education

a. To provide facilities for all elementary school graduates who would be expected to apply for intermediate school enrollment (85 percent of elementary school graduates);
b. To increase the proportion of buildings designed and constructed as intermediate schools by 30 percent during the plan period;
c. To expand the curriculum to include vocational guidance that is oriented to the environment, activities, and opportunities of the school community.

3. Secondary Education

a. To enroll 50 percent of the intermediate school graduates as well as all other applicants with appropriate entrance qualifications, then to maintain this rate throughout the plan period;
b. To develop total enrollment to assure that the number of qualified graduates each year is sufficient to meet the demands for new students implicit in the development plans for higher education.

4. Teacher Training Institutes

a. To achieve the capability of meeting all annual requirements for fully qualified elementry teachers with trained Saudi personnel on completion of the Plan;
b. To expand provisions for specialized teacher training in art and in physical education.

5. Vocational Education

a. To extend the system of secondary level industrial education to include six more areas in addition to the present four;
b. To initiate a system of secondary level commercial education with three schools to be operational within the first two years of the Plan;
c. To establish an institute for technical/vocational teacher training;
d. To complete the agriculture technical school in Buraydah as scheduled and to initiate work on three additional schools by 1391-92.

Girls' Education

1. **Elementary Education**
   a. To increase present (1389-90) elementary school enrollment by 95 percent by the completion of the Plan;
   b. To increase the number of communities with elementary schools for girls from 178 to 300, and the number of schools from 347 to 595;
   c. To reduce overcrowding in elementary classes in the first and second grades, attaining an average enrollment of 33 students per class in these grades.

2. **Intermediate Education**
   a. To improve the enrollment relationship between intermediate level education and elementary education from the present 9.3 percent (intermediate enrollment as a percentage of elementary enrollment) to 17.4 percent at completion of the Plan;
   b. To provide more opportunities for intermediate level education in small communities and rural areas.

3. **Secondary Education**
   a. To increase general secondary enrollment from the present level of 350 students to over 4,900 students by the completion of the Plan;
   b. To establish general secondary schools at ten new locations within the Kingdom during the plan period.

4. **Teacher Training Institutes**
   a. To achieve the capability of meeting all annual requirements for fully qualified elementary teachers with trained Saudi personnel on completion of the Plan;
   b. To increase the emphasis on teacher training at the secondary level;
   c. To initiate a program of teacher training in small communities, beginning in 1390-91.

5. **Women Teachers' College**
   a. To establish the proposed women teachers' college in Riyadh and to provide the first group of "Bachelor of Arts" graduates beginning in 1393-94;
   b. To attain total enrollment of 900 students by the end of the plan period.

Higher Education

1. **University of Riyadh**
   a. To maintain a capability of enrolling 50 percent of the general secondary school graduates as well as all other applicants with appropriate entrance qualifications;
   b. To strengthen all present eight faculties through the addition of staff and facilities as necessary to meet enrollment increases;
   c. To attain a student: faculty staff ratio of 10:1 by the end of the plan period;
   d. To provide the necessary interim facilities for the Faculty of Medicine and to initiate first-stage development of the proposed permanent facilities at the earliest possible date;
   e. To activate the proposed university consolidation and relocation program, with initial phase work to begin by 1391-92.

2. **College of Petroleum and Minerals**
   a. To expand undergraduate enrollment to reach a total of 1,150 students by the end of the plan period;
   b. To complete Phase II and Phase III of the present campus master development plan, with building occupancy by 1393-94;
   c. To complete the phasing-in of programs for undergraduate work by the 1392-93 academic year;
   d. To initiate graduate studies in 1390-91, with target at full development of approximately 5 percent of enrollment in Master degree level work and 2.5 percent in Doctor degree level work.

3. **College of Education, Mecca**
   a. To increase enrollment to approximately 950 students by the completion of the plan period;
   b. To continue existing arrangements for female external students in all programs;
   c. To increase the number of trained teachers produced annually from the present 40 to approximately 150 at the end of the plan period.

4. **King Abdul Aziz University**
   a. To reach a total enrollment of 825 students by the final year of the plan period;
   b. To expand the Faculty of Arts and Human Sciences from one to three departments by 1391-92;
   c. To establish a Department of Accounting in the Faculty of Economics and Administration in 1392-93;

d. To initiate studies in 1393-94 for eventual establishment of a Faculty of Sciences;
e. To inaugurate a closed circuit television system in 1390-91 for instruction;
f. To construct facilities for 35 additional classes on a phased program, beginning in 1390-91.

Religious Education

1. **Religious Institutes**
   a. To increase present (1389-90) total enrollment by 45 percent by the completion of the Plan;
   b. To eliminate overcrowding in classes, establishing an average of 30 students per class as the standard to be attained;
   c. To increase the number of communities with religious institutes for education from 37 to 41;
   d. To replace all rented facilities with government-owned buildings by the end of the plan period, constructing 20 buildings in a phased program.

2. **College of Arabic Language**
   a. To increase the intake of new students from the present 42 percent of the total graduates of religious institutes to 48 percent by the final year of the Plan;
   b. To initiate post-graduate sections in grammar, literature, and social sciences in 1390-91

3. **College of Sharia**
   a. To maintain the intake of new students at 41 percent of the graduates of religious institutes for the first three years of the Plan and to increase the proportion by one half percent each year until the completion of the Plan;
   b. To initiate Master degree programs in Interpretation and Hadith, Principles of Shariah, and Islamic Call and Guidance in 1390-91.

4. **Higher Institute of Justice:** To maximize utilization of existing staff and facilities through increased enrollment.

5. **College of Sharia, Mecca**
   a. To increase the enrollment to approximately 725 students by the end of the plan period;
   b. To expand the higher studies program;
   c. To explore all opportunities for cooperative arrangements with the College of Education.

6. **Islamic University and Associated Institutes, Medina:** To continue the development of a comprehensive program of Islamic studies for students from the Moslem world.

Special Programs for Education

1. To provide additional facilities for the academic and vocational instruction of the blind and the deaf and dumb;
2. To expand the opportunities for part-time adult education at all levels;
3. To extend the literacy program through the expansion of the literacy center system, the continuation of the summer campaign program, and the use of television;
4. To establish a regional training center for the preparation of instructor specialists in adult education and literacy programs by 1393-94;
5. To initiate a pilot educational television system in a selected community for instruction in appropriate subjects during the school day.

Cultural Affairs Programs, Ministry of Education

1. To improve the status of the existing public library system by providing additional books, library furniture, and equipment;
2. To replace five rented library facilities with new building construction;
3. To establish additional libraries as required, with initial priority to a library location in Tayif;
4. To initiate a continuous program of annual archaeological field exploration and surveys;
5. To initiate a program of historical site maintenance and rehabilitation;
6. To establish an archaeological collection and museum;
7. To undertake a purchase program for government ownership of historical and archaeological sites.

Proposed Programs

The proposed programs call for a financial outlay well above any sum previously allotted for education. Nevertheless, there are no extravagant or immoderate proposals in the program.

Boys' Education (See Fig. 7)

Elementary Education. The program of public elementary education proposes a 55 percent increase in total enrollment from 267,500 in 1389-90 to 416,140 at the end of the Plan. In this projected enrollment, the intake of new students to the first grade will move from 46,200 in 1389-90 to 81,000 in the final year of the plan period.

The above projection assumes that factors, such as improved quality of instruction, improved facility maintenance, the school meal program, and an adequate allocation of basic school equipment and furniture, will operate to reduce dropout and repeater rates. This program for elementary education is expected to graduate over 142,000 pupils during the plan period. By the final year of the Plan, about 35,000 graduates a year from elementary school can be expected.

To support this program, the elementary school system will require a net increase of 7,488 classes during the plan period. This net requirement has been established after planning for the consolidation of more than 500 classes, generally in rural areas, where student class enrollments are expected to be low. Most of the required additional classes will be provided through the development and expansion of existing school systems within districts, and approximately 17 percent are to be provided through new school additions.

In planning new schools, consideration is given to requests from communities that have satisfied basic eligibility criteria such as enrollment potential, distance from existing schools, etc. The Plan looks to establishing 590 additional schools, about two-thirds of which are to be opened in rural districts. Concurrently, a school construction program is planned that will broaden the basic government-owned elementary school system. It is planned to build 379 elementary schools during the plan period; some will replace rented schools and others will be opened as new schools. The distribution of constructed schools by size is as follows:

Large schools	(16 classes)	84
Average schools	(10 classes)	128
Small schools	(6 classes)	167
Total		**379**

It should be noted that this total is not in addition to the 590 schools intended to be added to the systems during the Plan. Rather, this construction program seeks to increase the proportion of the total number of schools — 1,973 at the close of the plan period — that will be government-owned and properly constructed as school buildings.

Due to the rapid development of elementary education in the Kingdom, elementary school operations have sometimes been handicapped by shortages of basic equipment as well as replacements for equipment in poor repair or unusable. The Plan looks to cover all existing equipment deficiencies at the earliest possible date and to provide appropriate allocations to meet equipment needs associated with the student enrollment expansion on an annual basis for each year of the Plan.

The results of various research efforts in countries throughout the world indicate a direct correlation between the nutritional state of the pupil and his academic performance, particularly at the elementary level. In view of these findings, it is planned to initiate a pilot school meal program in selected elementary schools where enrollment is predominantly from the lower income families. It is expected to start the nutrition program in the first phase of the Plan.

Requirements for additional school staff personnel have been projected at 10,503 teachers and teacher/administrators and 800 administrative staff members for the plan period. These additions will bring the elementary school staff to almost 29,000 for the operation of a system of approximately 2,000 schools with some 17,900 classes. Since the teacher training institutes are expected to graduate 7,275 students who would be available for teaching assignments during the plan period, there remains a requirement for some 3,200 additional contract teachers to meet the teaching staff needs indicated above. However, if the expansion plans for intermediate level education and secondary level teacher training are implemented the output of graduates from teacher training institutes would match the annual need for additional elementary teachers by the final year of the plan period.

Intermediate Education. In this plan, general intermediate education is being expanded to provide, insofar as possible, for all elementary school graduates wishing to pursue their studies, whether in urban or in rural areas. Experience over past years shows that applicants for enrollment represent about 85 percent of the elementary graduates. Accordingly, intermediate enrollment must double during the plan period in order to accomodate 85 percent of elemantary school graduates; i.e., from 37,389 students in 1389-90 to 80,190 in the last year of the Plan. The annual intake of new students into Grade 1 is expected to increase from 12,782 in 1389-90 to 27,203 in the final plan year.

Over 50,000 intermediate education graduates are projected for the plan period. This graduate total is highly important as intermediate school graduates represent the principal student resource for secondary schools and technical institutes.

In planning the development of opportunities for intermediate education, considerable emphasis has been placed on providing intermediate level classes for graduates of rural elementary schools. Here, the required intermediate classes will be attached to existing elementary schools wherever practicable. As the attached intermediate grades demonstrate viability by attracting, holding, and graduating significant numbers of students, they would be considered for reorganization as independent intermediate schools. In the urban areas, requirements are to be met by a combination of approaches—expanding existing intermediate schools by adding classes; attaching classes to some elementary schools; and by opening new intermediate schools.

These programs for rural and urban areas will require 1,519 additional classes, and this growth in clasess will find the intermediate school system expanding from 215 schools to 339 schools during the plan period. The addition of 124 new schools, however, will consist mostly of the attached class arrangements described above rather than independent schools. The breakdown of the expansion at the end of the plan period is as follows:

Total schools in 1389-90	215
New attached schools	76
New independent schools	48
Total schools at end of Plan	339

The "modern intermediate school" concept is being examined in four schools that were established in 1388-89. No expansion of the program to other schools is contemplated at this time, since the results of this educational innovation have yet to be determined. However, a regular program of vocational guidance is to be introduced in intermediate schools to provide students with a broader orientation to the activities and opportunities of the school community as well as an appreciation of educational choices beyond the intermediate school level and the related employment and career opportunities.

Success of the Plan must ultimately rest on the degree to which teachers with proper qualifications can be recruited. The proposed plan requires almost 2,900 additional teachers, raising the total number from 2,619 at present to 5,516 teachers at the end of the Plan. Most of the additional teachers will have to be contract personnel — about 2,000 non-Saudi teachers to be recruited during the plan period. Relaxation of this situation cannot be expected to occur until college-level teacher training programs have expanded well beyond their present level.

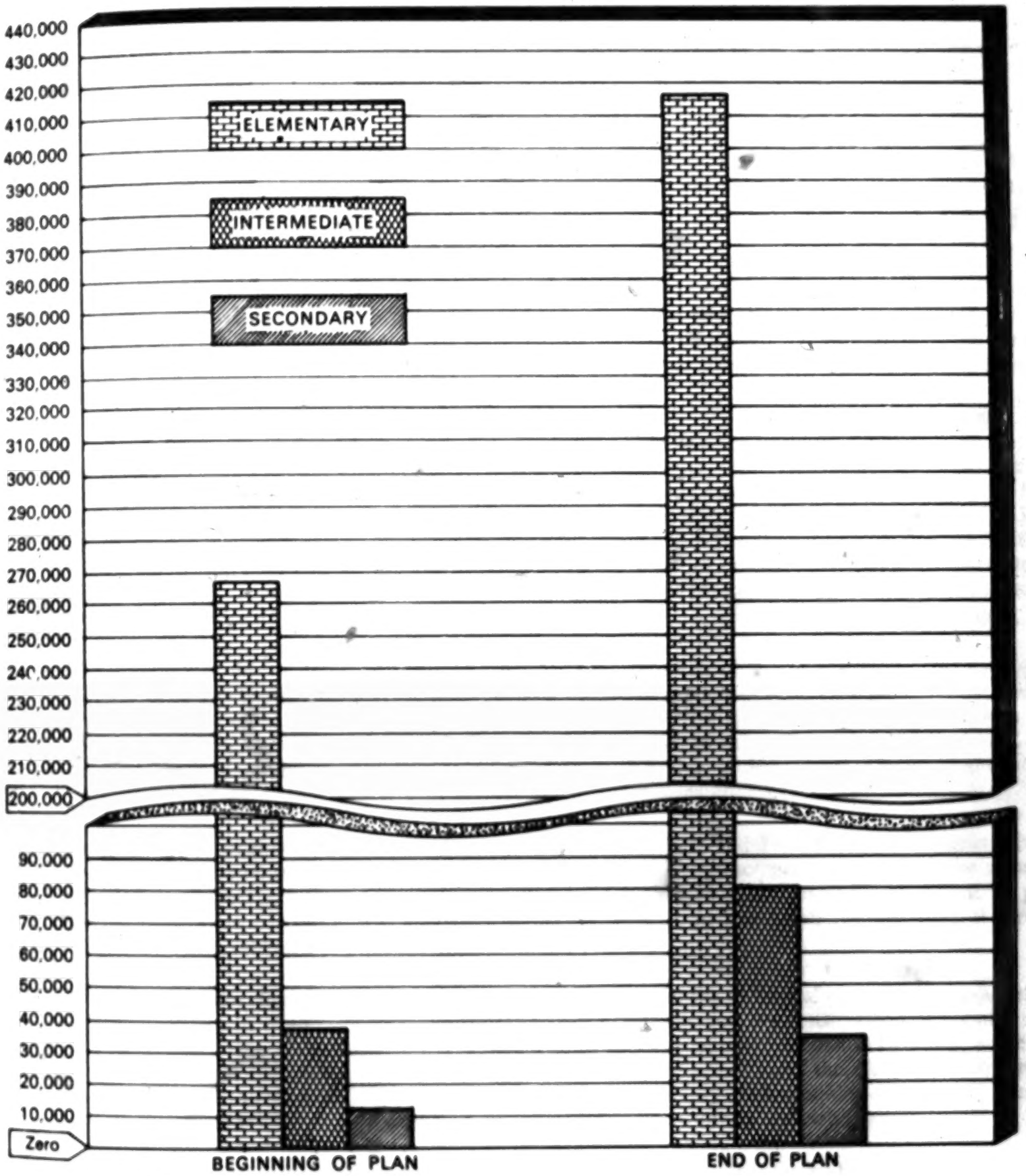
Most of the staff positions other than headmaster or assistant headmaster are expected to be filled by Saudi personnel who would account for almost 90 percent of the administrative staff.

Secondary Education. The Development Plan looks to continued expansion in secondary education; however, the Plan also recognizes the need for more graduating intermediate students to enter teacher training, technical/vocational programs, or other post-intermediate training institutes. Therefore, the development of general secondary education is based on holding new student admissions to about 50 percent of the preceding year's intermediate school graduates and accepting in addition all other qualified applicants from night schools, private, and other programs.

This restriction notwithstanding, general secondary education enrollment will increase from 8,242 students in 1389-90 to 18,324 by the end of the Plan. The intake of new students is expected to increase from 3,344 in 1389-90 to 6,745 in the last year of the plan period. Approximately 14,600 students are expected to graduate during the plan period, more than doubling the annual output of graduates between the initial and the final year of the Plan. Nevertheless, the demands for these students will be heavy as institutions of higher education look to increased enrollment of new students each year. While the projected output for the secondary schools is sufficient to meet all anticipated requirements of the higher education system, the number of graduates remaining to satisfy all other requirements for secondary school graduates will be less than 1,000 in the last year of the plan period.

BOYS' EDUCATION

THE GROWTH OF EDUCATION AT ALL LEVELS DURING THE PLAN PERIOD



Note: Secondary level includes: General Secondary, Teacher Training, Industrial, Vocational, Commercial, Art and Physical Education Institutes.

Fig. 7

The present general secondary school system of 39 schools is to be expanded to 65 schools by the completion of the Plan, with the 26 additional schools being introduced at a regular rate throughout the plan period. Changes will also be made during the Plan in the composition of the school system, as shown in the following comparison:

School Type	Number of Schools	
	1389-90	End of Plan
Independent schools	25	48
Special schools (Dar Al Tawhid)	1	1
Model schools	4	4
Combined schools	9	12
Total	**39**	**65**

The expansion and change in school types will add 361 classes to raise the total number of classes from 316 as of 1389-90 to 677 at plan period completion. Most of the added classes are allotted to existing schools and to the new schools after they have been established for a year or more.

This expansion program requires an additional 735 teachers and 450 administrative staff personnel. The teacher requirement constraints that were discussed in the program for intermediate education operate even more severely in secondary education. On the basis of experience and projected outputs of education institutions in Saudi Arabia, it appears that probably 100 Saudi instructors would be available for teaching. The remaining 635 would have to be recruited contract personnel. (See Fig. 8 for school graduates - boys).

Teacher Training Institutes — Secondary Level. Development of the teacher training institutes is crucial to the success of the plan for boys' public education. Efforts are to be directed toward channelling about 35 percent of the intermediate school graduates into teacher training, and the total enrollment is expected to more than triple in the plan period. The intake of new students into Grade I has been projected as increasing from 1,410 in 1389-90 to 3,853 in the last year of the Plan. Over 9,200 graduates are forecast for the plan period, with the annual rate passing the 2,000 mark in 1393. By the last year of the plan period, the annual graduating class would be sufficiently large to meet the needs for additional elementary teachers each year and also to replace some contract personnel and relieve some Saudi teachers for further study and upgrading.

The largest annual enrollment increases are scheduled for the beginning of the plan period. This early growth is necessary if there is to be any significant increase in the annual output of graduates within the plan period. Therefore, the plan for development of teacher training calls for opening 4 new teacher training institutes in 1390-91 with a total of 13 classes. At the same time, the existing 9 institutes would add 48 classes to bring their total to 152 classes. By the end of the plan period, there would be 16 teacher training institutes with a total of 364 classes. The development of the new schools would be phased over three years, with higher grades and classes added each year.

This expansion carries with it a requirement for 540 additional teachers and 193 additional administrative staff personnel. Meeting this requirement calls for the recruiting of 464 foreign contract personnel and at the same time obtaining 76 qualified Saudi teachers from the graduating classes of higher education institutions. About 25 percent of the additional administrative personnel will also have to be recruited from non-Saudi sources. (Fig. 9 shows the ratio of teachers for all levels during the plan period).

Technical Vocational Education. This plan looks to sizable increases in the industrial education program through the modernization and expansion of the existing vocational secondary schools and the construction of six new schools at other locations. Together, these ten schools will represent a total capacity of 3,445 students. However, some of the schools are not scheduled for completion until the closing years of the plan period, and therefore total enrollment at the end of the plan period is projected at 2,727 students. This total, even though below school capacity, is four times as large as the current year (1389-90) total enrollment of industrial and vocational schools.

The projection of graduates, based on an anticipated success rate of 80 percent, looks to 1,271 students completing the three-year program during the plan period, with the annual output passing the 300 mark by the end of the 1393-94 school year.

The expansion carries with it a requirement for 177 additional instructors and 82 additional administrative staff. Because of the subject matter, the practical and theoretical instructors must have a considerable degree of specialized knowledge and experience. Given the extreme shortage of such persons in the local economy, most of the instructor staff requirement will have to be met through contract hire and external assistance programs.

EDUCATION

GROWTH IN NUMBERS OF MALE AND FEMALE GRADUATES

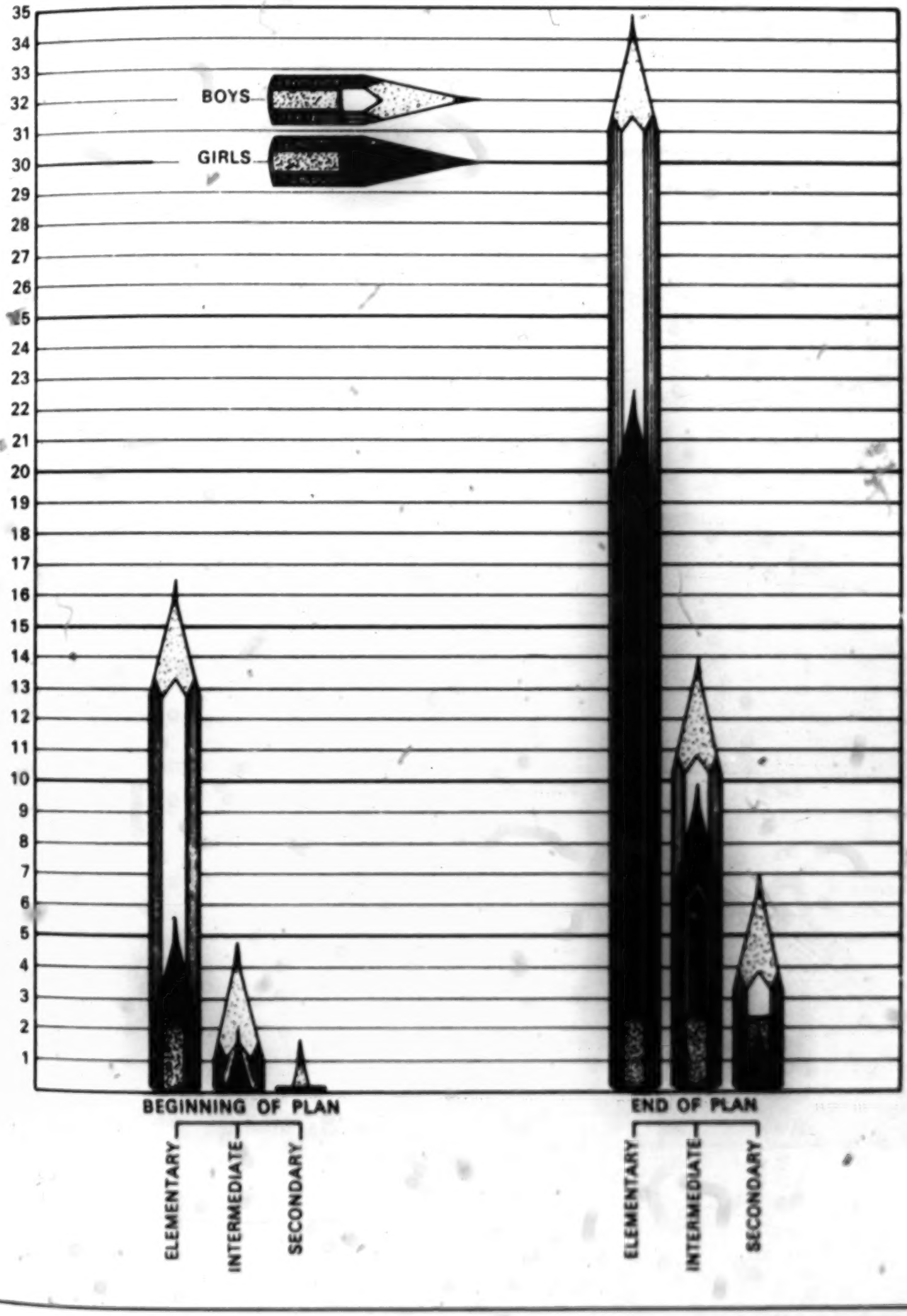
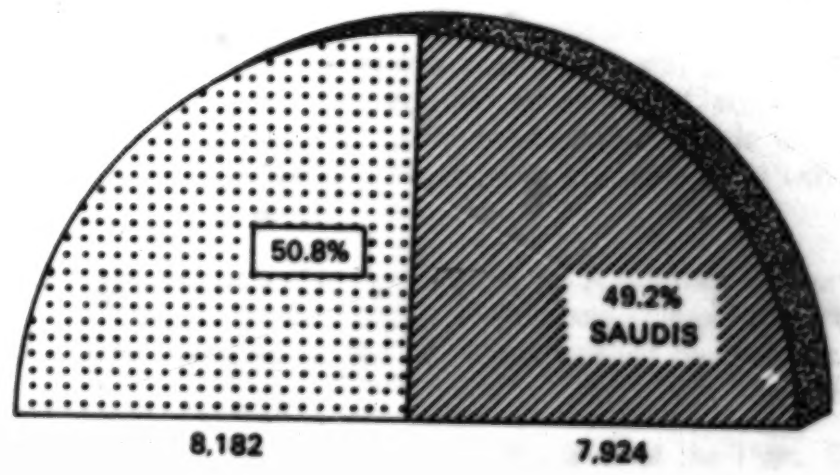


Fig. 8

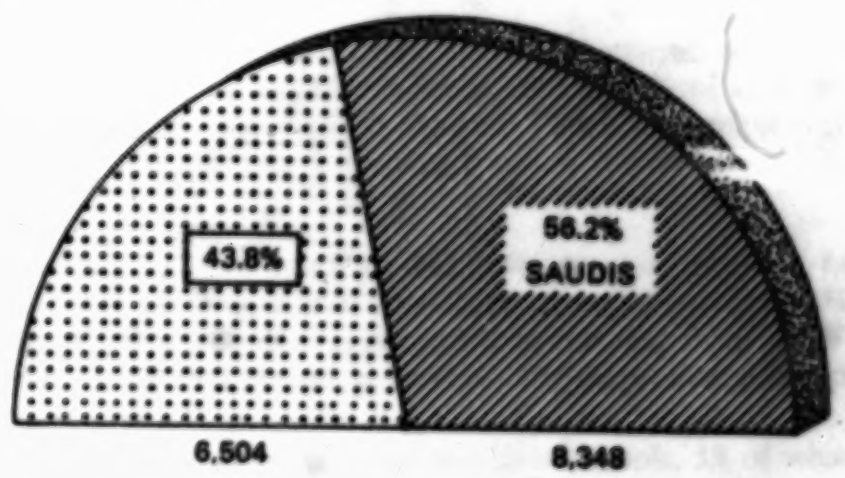
3

BOYS' TEACHERS : ALL LEVELS

1389/90



PLAN REQUIREMENTS FOR ADDITIONAL TEACHERS



POST PLAN TEACHING STAFF

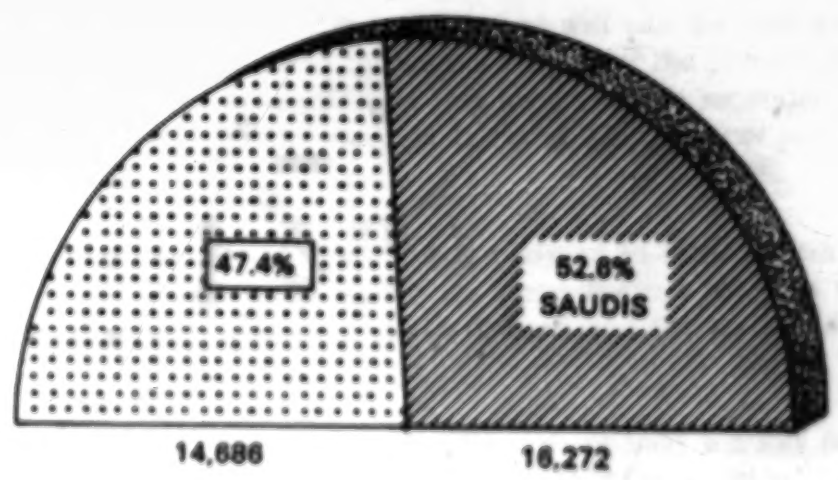


Fig. 9

Since no relaxation in requirements for foreign skill-instructors can be expected, the establishment of a local vocational instructor training institution is critical to future development of the technical/vocational education program. Two external assistance proposals for such a project have been submitted and, with an early decision, work on the training institution program could begin within the same year.

Training in office skills and related subjects is being initiated with opening of a commercial institute in Riyadh, to be followed the next year with two additional institutes, one in Dammam and one in Jiddah. Initial enrollments have tentatively been set at 25 students per class, with provisions for expansion if this type of education is proved a success.

The current development project for the agricultural technical school in Buraydah is expected to be completed by the end of the plan period. Meanwhile, work is to be initiated on three additional schools in 1391-92, following the final determination of locations. A 75 percent completion status in construction is anticipated by the end of the plan period.

Girls' Education (See Fig. 10)

Elementary Education. Enrollment in public elementary schools for girls is to increase from 114,800 in 1389-90 to 224,500 in the last year of the Plan, a gain of approximately 95 percent. At this point, girls will account for about 35 percent of the total number of children enrolled in elementary school. The number of new girl students entering the first grade is projected at over 52,000 in the last year of the plan period, and the program for girls' elementary education is expected to graduate over 87,000 students during the plan period. The annual graduate total will pass the 22,000 figure before the Plan is completed.

The elementary school system will require 3,439 additional classes, increasing the total number of classes from 3,329 in 1389-90 to 6,768 at the end of the plan period. Part of this requirement — 154 classes — has been established to reduce the present overcrowded situation in the first and second grades; the additions will set the average number of students per class at 33.

It is planned to increase the number of elementary schools from 347 to 595 by the end of the Plan. Some 126 of the additional 248 schools would be added to existing school systems to relieve some of the enrollment pressure, while the remaining 122 schools would be established in communities that had no girls' schools. This would bring the number of communities with schools for girls up to 300 at the completion of the Plan.

The total elementary school staff is to be increased by 4,509 teachers and 1,522 administrative personnel over the plan period. However, a significant increase in the proportion of Saudi personnel holding school staff positions is anticipated, from 29 percent at the beginning of the plan period to 48 percent at the end. This achievement is dependent upon the successful development of plans for intermediate and secondary teacher training that are described in this total plan for girls' education.

Intermediate Education. Emphasis at the intermediate level is being shifted from teacher training to general education which is expected to increase its share of the total intermediate level enrollment from 44 percent to 60 percent at the end of the plan period. In so doing, general intermediate enrollment is projected to increase from 4,400 students in 1389-90 to 23,500 students in the final year of the Plan. Over this period, a total of 16,900 graduates are projected.

To support this expansion, it is planned to open 34 additional general intermediate schools, 19 of which are to be established in small communities with strong elementary school programs but without provisions for further education. Concurrently, existing schools are to be expanded by adding a total of 283 classes over the plan period.

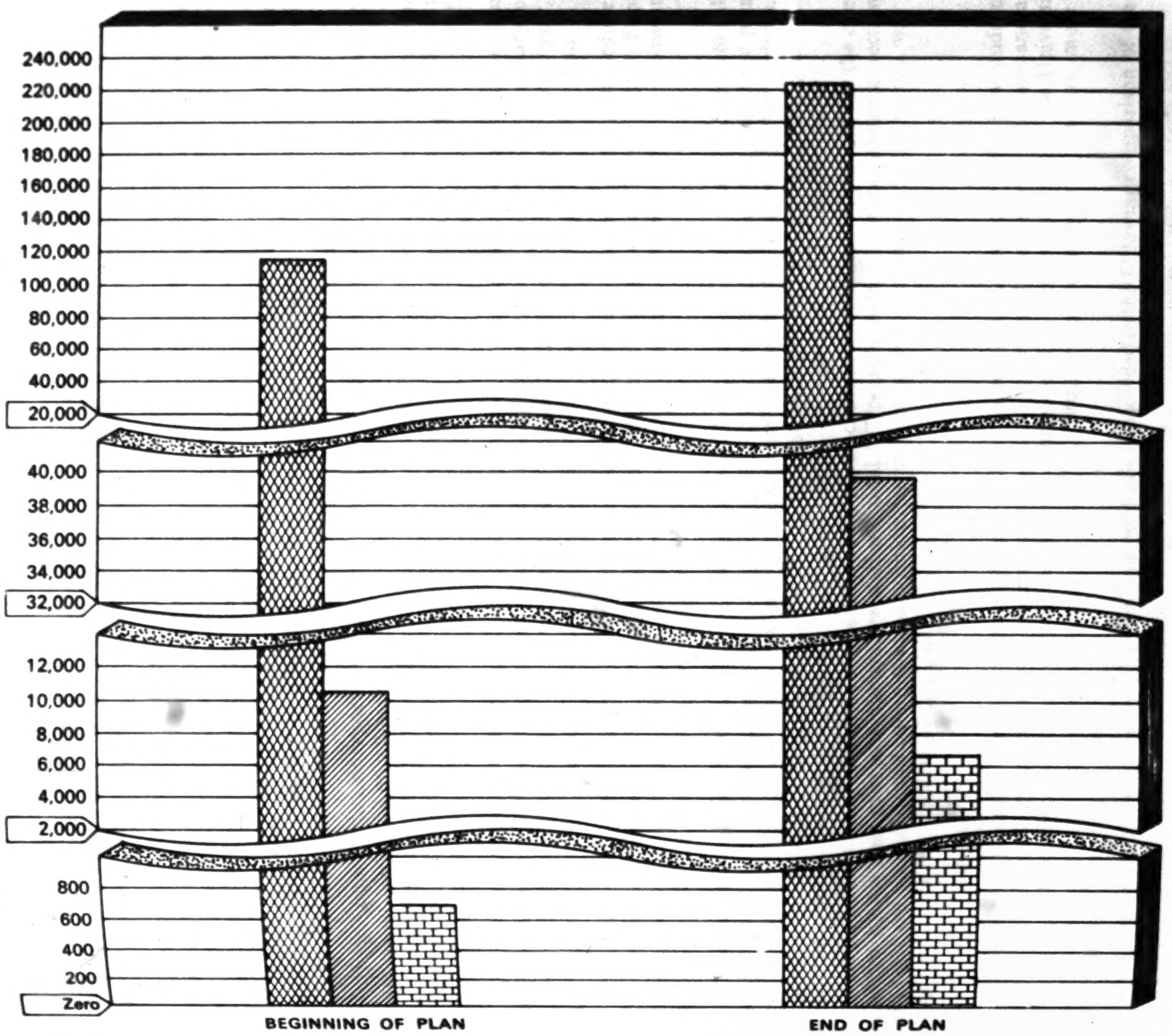
Unlike elementary education, the staffing requirements for intermediate education will call for foreign contract personnel for the most part. Some of the administrative posts will be filled by Saudis but, until the proposed teacher's college for women is operational, the resources for qualified Saudi instructors at this level and the secondary level are limited. The Saudi proportion of the teaching staff is therefore estimated to increase at about 2 percent per year, reaching approximately 20 percent in the last year of the plan period.

Secondary Education. A sizable expansion of general secondary education is planned in anticipation of larger numbers of general intermediate school graduates and broader and more numerous opportunities for girls who complete general secondary education. Ten additional general secondary schools are to be opened, and the school now operating in Riyadh is to be enlarged.

Initially, the new schools will operate either as attachments to existing general intermediate schools or through the interchange of facilities with an intermediate school that would then relocate. The maximum eventual capacity of all new schools is being set at 450 students. The projected development of the general secondary school enrollment looks to 4,900 students in school in the last year of the Plan.

Fig. 10

GIRLS' EDUCATION
GROWTH IN ENROLLMENT



CHOMITH BI HIWOAHS
CIHIZ. EDUCATION

The staff required for this school system will increase from the present 15 teachers to 318 teachers and 60 administrative personnel by the end of the Plan. For the first three years, almost all of the teaching staff will be contract personnel; however, Saudi personnel will then begin to take up more of the teaching posts as more girls become available from higher education. (See Fig. 8 for school graduates - girls).

Teacher Training Institutes. The annual increase in total enrollment in teacher training institutes at the intermediate level is to be held at 1,500 additional students per year. This will provide the number of graduates to meet the new enrollment requirements projected for the expanded teacher training secondary level institutes as well as a sizable number of teachers for elementary school assignments.

Some of the intermediate teacher training students will attend the small institutes that are to be opened in 19 rural area communities. However, most will be accomodated in the existing 26 schools that will be expanded by adding classes. Enrollment is expected to reach 13,280 students by the end of the Plan as compared with 5,480 in 1389-90. During the Plan, over 12,500 students are expected to graduate.

The four technical institutes also provide teacher training at the intermediate level in home economics subjects. These schools are to be expanded by adding classes and enrollment is projected at 2,010 students at the end of the Plan. Approximately 1,900 graduates are anticipated during the plan period.

The program for secondary-level teacher training institutes looks to expand from a 5- to a 15-school system during the plan period, with total enrollment of 2,667 students in the 2-year program by the end of the Plan. The new schools are to be opened on the same basis as the present five schools, which have operated as attached facilities to other schools. The schedule for introducing the new institutes calls for opening seven of the ten additional schools in the first two years of the plan period.

Since the curriculum in these secondary institutes represents an extension of the intermediate teacher training program, enrollment is restricted to graduates of the intermediate teacher training schools. The secondary level program anticipates accepting approximately 50 percent of the intermediate training program graduates each year, and enrollment is expected to move from the present total of 221 students to 2,667 in the final year of the Plan.

There will be a large requirement for teaching and administrative personnel in both the intermediate & secondary level teacher training institutes. Although a good number of the administrative staff posts will be filled by Saudis, the teacher requirement for the most part will have to be met by contract personnel. (Fig. 11 shows the ratio of female teachers for all levels during the plan period).

Teachers' College for Women. The proposed College of Education for Women in Riyadh is scheduled to begin classes in 1390-91 with an anticipated intake of 130 students for the first year. By the final year of the plan period, the college is expected to reach an enrollment of 948 students and the intake that year will be 300 students. The college will produce its first class of 43 graduates at the end of the 1393-94 school year and a class of 102 graduates at the end of the Plan.

An initial staff of 36 persons, 14 of whom would have academic assignments, is planned for the opening year of the college. By the final plan year, the college staff will total 197 persons, with 103 in the academic section. It is anticipated that the non-academic administrative positions as well as academic administrative positions will require 164 contract personnel by the end of the Plan.

Higher Education

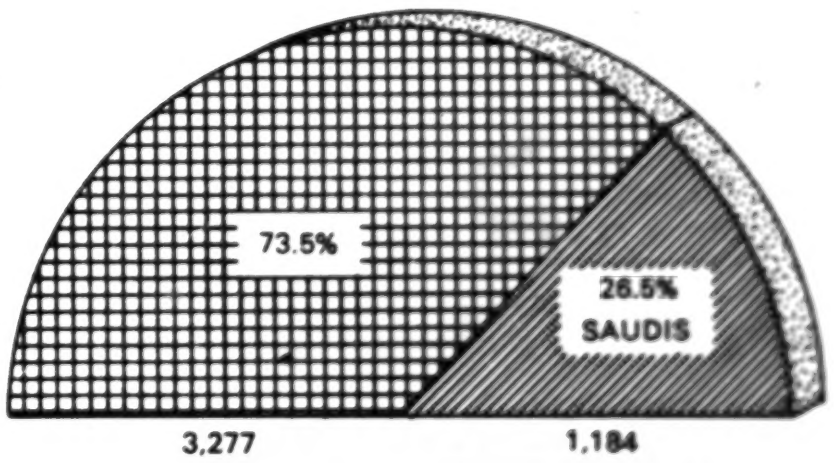
University of Riyadh. The University of Riyadh expects to enroll approximately 7,500 new students during the plan period It will enroll approximately 50 percent of the qualified general secondary school graduates and an additional increment of students from other sources who qualify for admission. The total enrollment of the University, after accounting for dropouts and graduates, is expected to reach 7,000 students in the last year of the Plan, more than double its enrollment at the start of the Plan.

An indication of the direction of effort and emphasis is provided in the following comparison of the present and the end-of-plan distribution of student enrollment.

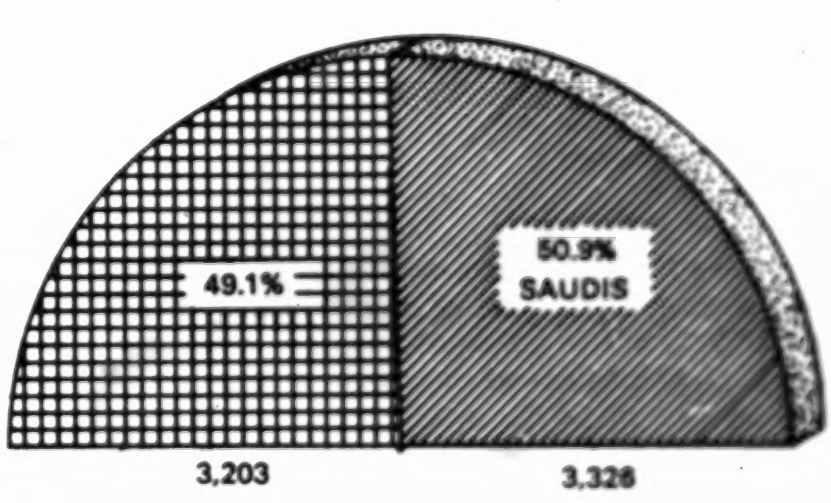
	Enrollment	
Faculty	**1389-90**	**End of Plan**
Arts	838	1,350
Commerce	781	1,782
Sciences	422	1,140
Engineering	395	1,068
Education	185	608
Pharmacy	145	536
Agriculture	102	252
Medicine	35	262
Total	**2,903**	**6,998**

GIRLS' TEACHERS : ALL LEVELS

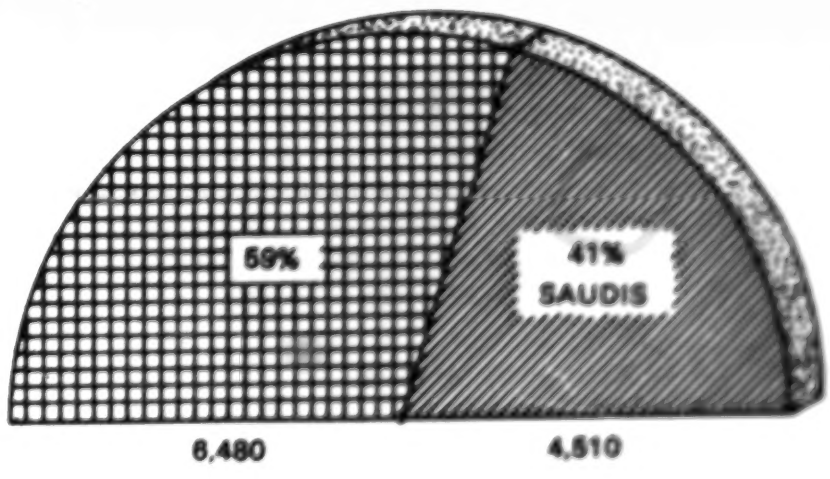
1389/90



PLAN REQUIREMENTS FOR ADDITIONAL TEACHERS



POST PLAN TEACHING STAFF



The above projections assume that the proposed long-range university consolidation and relocation program is to proceed according to schedule, so that the preliminary stage work of surveys, design, and bid requests can be completed by the end of 1391-92. The completion of subsequent stages, to include construction of first-phase buildings for all faculties other than the Faculty of Medicine is scheduled for 1394. However, concentrated effort on one or two rather than all of these facilities could result in an earlier completion date. This would release some of the existing college space in Riyadh for temporary use by the other faculties that would be awaiting construction of their accomodations at the new campus.

Even with this construction effort, the University will be hard pressed to handle the additional annual enrollment that can be expected before the move to the new campus begins. As temporary solutions, short-term rental of some buildings that can be adapted with minimum cost, and the readjustment of the existing schedule of classes and the school day are expected to provide some relief. The effectiveness of such steps, however, will diminish after the early years of the plan period when the annual intake of new students begins to rise sharply.

The present academic staff (professors and lecturers) of 212 persons represents a student: faculty ratio of slightly less that 14:1. This total includes 36 Saudi personnel, the remainder being qualified contract-hire personnel. At the completion of the plan period, the academic staff will total approximately 700 for a student: faculty ratio of 10:1. The number of Saudi instructors is expected to total 120 at that time as a number of persons now working abroad for advanced degrees will have returned to take assignments with the University.

The development of the Faculty of Medicine is an integral part of the proposed Health and Medical Sciences Center project which is to be established on the new university campus. The Plan includes provisions for continuation of the pre-medical phase of the program in temporary rented facilities. Construction work to provide facilities at the center location for pre-clinical studies is programmed for 1392-93 with a concurrent effort to implement the initial stages of the remainder of the medical school and teaching hospital as soon as possible. It is anticipated that the arrangements with the University of London for the development of the medical educational program will continue beyond the plan period.

College of Petroleum and Minerals. Total student enrollment at the College is planned to reach 1,150 students by the last year of the plan period. New student admissions will be held at 200 students per year until the 1394-95 academic year when the annual intake will be increased to 250 students. The distribution of total enrollment among programs is estimated as follows:

Applied Engineering	50 percent
Engineering Sciences	33
Science	17
Total	**100 percent**

The preparatory year program, which precedes the regular under-graduate program, will be continued through the plan period; however, content may be modified in keeping with the abilities of incoming students. The phasing-in of third, fourth, and, as necessary, fifth year undergraduate programs is to be completed by the 1392-93 academic year when all programs will be fully operational at the college. Some graduate work is to be initiated in 1390-91 in anticipation of the eventual development of both Master degree and Doctor degree level programs at the college. In this connection, the UNESCO program at the Center for Applied Geology is to continue to 1393-94 under the present agreement.

The College plans to promote utilization of the computer center (IBM 360/50) by both government and industry with the view of broadening the applications, extending the instructional value of the installation, and optimizing equipment usage.

The required staff level for instructional and key administrative personnel is expected to increase from 78 at the beginning of the plan period to 146 at the final year. A comparable requirement for qualified non-academic support personnel at the technician level on a one-to-one basis is anticipated. To assist in reaching these levels, the College looks to a continued relationship under the IFP (France) cooperative program with a representation target of 10 percent of the total staff. Efforts are also continuing toward the development of an agreement with a university consortium that would provide 10 percent of the instructional research staff. Concurrently, attention is being directed toward the selection of Saudi candidates for assignment or for further academic study prior to staff assignment.

To accomodate this growth, work is scheduled for construction of buildings programmed for Phase II and III of the campus master development plan, adding to the buildings now completed and in use at the ultimate campus site. Building occupancy for the new construction is scheduled for 1393-94; site preparation is completed and designs are ready for release for bidding. At the same time, work is to continue on the student dormitory development through

rehabilitation of the Al-Salamah buildings at a rate to meet the additional enrollment. Faculty housing and additional site development will also progress through the plan period. Additional equipment and furnishings are scheduled for purchase to meet growth and replacement requirements.

College of Education, Mecca. The College of Education plans to raise its total enrollment to approximately 950 students by the last year of the plan period. About 150 of these students will be girls who take evening courses combined with home study and come under the external student classification. A chemistry biology division is to be opened in the 1392-93 school year in response to the urgent need for science instructors at the general intermediate and secondary schools, and a sociology division is scheduled for the 1394-95 school year. In the final year of the Plan, the number of graduates would be approximately 150 students, including an estimated 25 girls.

The College shares a building of recent construction with the College of Sharia and classroom space is adequate to accomodate the anticipated expansion and additional course divisions. However, there is a requirement for laboratory facilities and other instructional equipment to increase the effectiveness of the instructional program and the Plan calls for remedying this situation in the beginning years of the plan period.

King Abdul Aziz University. The degree to which the programs of King Abdul Aziz University, a private institution, can be implemented will rest on the ability of this University to muster significant public and private financial support for its efforts. Recognizing the potential contribution that this institution can make to educational development, the plan for educational development includes an annual allocation of SR 3 million for this school.

The University looks to attaining an enrollment of approximately 825 students in the final year of the Plan, with girls representing about 315 students. The first graduating class of 30 students is expected at the end of the 1391-92 school year, and 261 graduates — 171 males and 90 females — have been projected for the plan period. These graduates would represent the present faculties of economics and administration, and arts and human sciences. However, future graduates would include representatives of these faculties with specialization in fields scheduled to be introduced during the plan period. Consideration is being given to providing academic majors in accounting, sociology, and others in addition to the present economics, public administration, business administration, and language. Plans for a Faculty of Science are to be introduced for study and consideration either in 1393 or 1394.

Since its establishment, the University has undertaken a program of building rehabilitation and expansion which will carry on through the plan period. Among the projects scheduled are the construction of 35 additional classrooms, a lecture hall, expansion of the library, and the installation of a closed-circuit television system for instructional use.

Religious Education

Religious Institutes. Enrollment in religious institutes is planned to reach 12,000 students at the end of the plan period, an increase of slightly over 3,700 students over the 1389-90 total. This estimate is based on an increasing yearly intake of new students to the first grade of the institutes, from 2,330 at the first year of the Plan to 3,120 in the last year, combined with a reduction in failure and dropout rates. The expected number of graduates during the plan period is 5,863 - 1,400 of whom will graduate in the last year of the Plan.

To meet this expanded enrollment, 4 new institutes are to be opened in 1390-91 and the present 37 institutes will be expanded with added classes as required over the plan period. By the end of the Plan, the system of 41 institutes will have 401 classes. It is also planned to replace 20 rented facilities with government-owned buildings during the plan period.

Implementation of this program calls for a teaching staff of 666 instructors, supported by 332 administrative employees at the end of the plan period.

College of Arabic Language. Since this College as well as the College of Sharia, looks to the graduates of the religious institutes as the principal source of students, its program for development is linked to the plan for the growth of the religious institutes. The intake of new students, which at present represents 42 percent of the religious institute graduates, is expected to continue the past upward trend and reach 48 percent in the final year of the Plan. Total enrollment will move from 790 students in 1390-91 to 2,153 students at the end of the Plan, and the number of graduates is estimated at 1,083 for the plan period.

Three post-graduate sections, one for grammar, one for literature, and one for social sciences, are to be opened in 1390-91 with initial admissions of 15 students each. A three-year program leading to a Masters degree is planned and each section is expected to graduate 33 students with advanced standing during the plan period. This advanced studies program and the expanded regular program will require a staff of 135 teachers by the last year of the Plan, 39 of whom will be in the post-graduate sections.

College of Sharia. Efforts are to be directed toward arresting a declining enrollment trend and maintaining the intake of new students at 41 percent of the graduates of the religious institutes for three years. A subsequent slight improvement from one half to one percent per year is seen for the remaining years of the Plan. This will provide a total enrollment of 1,902 students at the end of the Plan and 1,200 graduates during the plan period.

Three post-graduate departments — Interpretation and Hadith, Principles of Sharia, and Islamic Call and Guidance — are to be opened in 1390-91 with initial intakes of 15 students for each department. The first graduates are expected at the end of the 1392-93 school year and each department expects to grant the Masters degree to 33 graduates by the end of the Plan. Together, the undergraduate and the post-graduate classes will call for a staff of 153 instructors by the end of the last year of the Plan.

Higher Institute of Justice. The present staff and facilities of the Higher Institute of Justice are adequate to accomodate the anticipated increase in regular student enrollment from 19 students in 1389-90 to 51 students in the last year of the Plan. Efforts will be directed toward reversing the declining enrollment in the external student category to provide for more efficient utilization of the present faculty and administrative staff.

College of Sharia, Mecca. The College of Sharia in Mecca, a Ministry of Education activity, draws most of its students from the Dar al-Tawhid school in Tayif and the general secondary schools. The College plans to reach a total enrollment of 727 students in the last year of the plan period, a net increase of 461 students over the 1389-90 enrollment. The output of graduates during the plan period is estimated at 394, with 120 graduates anticipated in the final year of the Plan. The Sharia department is expected to continue to account for about half of the total enrollment, with the remainder being divided between the History and Islamic Civilization department and the Arabic Language department.

The Higher Studies section, a three-year program of postgraduate work, is scheduled to reach its full enrollment goal of 72 students in the 1392-93 school year and will continue at this level for the remainder of the plan period. This section will have a full staff of 14 instructors at that time, 8 more than the present assignment of teachers. The undergraduate section plans to add 51 teachers during the plan period to reach a 72-teacher level for the last year of the Plan. Staffing needs are to be met by a continuation of past procedures which involved recruitment from abroad, utilization of visiting professors and lecturers, and development of promising students and graduate assistants through scholarships for advanced studies.

Islamic University. Development of the complex of intermediate and secondary level religious study institutes, colleges, and higher studies programs that comprise the Islamic University in Medina will continue through the plan period. The first graduates of the newly inaugurated Language and Literature section and the Masters degree program are expected in 1394-95. Total graduates at the college level for the plan period have been estimated at 1,015, distributed as follows:

Sharia College	440
Al-Dawa College	400
Language and Literature	110
Masters Degree Program	65
Total	1,015

Special Programs for Education

Special Education. Two new institutes for the deaf and dumb, one for boys and one for girls, are to be opened in Jiddah during 1390-91. At the same time, an education program for the mentally retarded is to be initiated with two institutes, one for boys and one for girls, being established in Riyadh. Libraries in the existing eight institutes for the blind are to be expanded and additional special texts and other publications obtained for student use. A program of regular demonstrations and exhibitions of work by handicapped students is to be established to encourage students in their work and to stimulate public awareness of the vocational potential of the handicapped individual. The enrollment of students in special education programs is expected to reach 3,181 in the last year of the Plan.

Adult Education and Literacy. Expansion of the night school program of adult education is planned to parallel the development and expansion of the general intermediate and secondary school program for boys. As new day schools are opened, attention will be directed toward establishing night classes for adults in the community who wish to study in these levels of education. Day school staff would be used as instructors with salary augmentations for this additional duty.

The adult literacy program of evening instruction in reading, writing, and simple arithmetic is to be expanded from 592 to 792 schools during the plan period, using day school facilities of the Ministry of Education. A final plan-year enrollment of more than 77,000 students is projected; about 50,000 of this total would be in the basic literacy

program and the remainder in the two-year follow-on program. Concentrated summer campaigns in selected localities are programmed for each year of the Plan, with participation by at least 1,000 adult students in each annual three-month effort. A program to publicize literacy education opportunities and to present short courses is incorporated in the overall literacy program effort.

To increase the effectiveness of the adult literacy programs, plans are now underway to join with UNESCO in the establishment of a regional training center for specialists in adult education and literacy programs. The timetable looks to completion of all arrangements so that students could be enrolled at the beginning of the 1392-93 academic year.

Educational Television. A pilot program in education by television for schools is to be undertaken to determine the potential for wider application of this approach to education. The initial program will be restricted to one community, with the number and level of the participating schools to be determined after further investigation. Either low-power conventional transmission or coaxial cable will be used and production elements will be capable of providing taped or live programs to the classroom on curriculum subjects.

Figures 12 and 13 show the number of students during the last year of the Plan and the number of male and female graduates during the plan period.

Cultural Affairs Programs, Ministry of Education

Public Library System. The ten general public libraries are to be expanded and improved, with priority given to enlarging the book collections and periodical sections and to providing the necessary additional furniture and equipment. A photographic department is to be established at the Riyadh Library to record documents and publications. Five of the libraries that now occupy rented facilities are to be provided with appropriate buildings through a phased construction program, and a new library is to be established in Tayif.

Archaeology. A program of annual archaeological missions for field surveys, site investigations, and site registrations will include coverage of areas such as Medina, Riyadh, Jiddah, Mecca, Tayif, Dariyah, Med'in Saliph, and Hayl during the plan period. A maintenance program for buildings of historical significance includes the Mosque Jwam o Hofuf, the Nebtain building in Rwama, and buildings in Dariyah. To retain control of other sites and buildings of archaeological or historical significance, a program for government purchase of such properties has been developed.

In view of the cultural importance of archaeological finds and the educational value of museums, the Plan includes provisions for the establishment of an archaeological museum and library.

Statistical Summaries

Tables 26 to 29 show the number of students, graduates, teaching facilities, and teaching staff in the year preceding the Plan and by the end of the Plan for boys' and girls' education, higher education, religious education, and special programs for education.

Financial Allocations

The financial allocations for the programs included in the Plan for education and cultural affairs are shown in Table 30.

TABLE 26
STATISTICAL SUMMARY
BOYS' AND GIRLS' EDUCATION

	Students		Graduates		Schools		Teachers	
		End of		During		End of		End of
Boys' Education	1389-90	Plan	1389-90	Plan	1389-90	Plan	1389-90	Plan
Elementary	267,529	416,140	16,532	142,771	1,383	1,973	14,952	25,05
Intermediate	37,389	80,190	4,789	50,891	215	339	2,619	5,59
Secondary	8,242	18,324	1,327	14,592	39	65	661	1,39
Teacher Training	3,407	12,460	339	10,206	11	24	269	8
Technical/Vocational	694	2,727	46	1,271	4	10	261	4
Girls' Education								
Elementary	114,800	224,500	5,568	87,939	347	595	3,951	8,00
Intermediate	4,400	23,500	913	16,900	12	46	198	1,27
Secondary	350	4,900	120	2,541	1	11	15	3
Teacher Training	6,492	17,957	1,132	17,515	35	64	297	9
Women's College	—	948	—	145	—	1	—	8

TABLE 27

STATISTICAL SUMMARY
HIGHER EDUCATION

	Students		Graduates		Faculties or Programs		Academic Staff	
	1389-90	End of Plan	1389-90	During Plan	1389-90	End of Plan	1389-90	End of Plan
University of Riyadh	2,903	6,998	209	1,856	8	8	212	700
College of Petroleum and Minerals	486	1,150	—	475	3	3	72	133
College of Education	311	950	40	469	4	6	30	102
King Abdul Aziz University	210	825	—	261	2	2	34	66

TABLE 28

STATISTICAL SUMMARY
RELIGIOUS EDUCATION

	Students		Graduates		Institutes or Colleges		Teachers	
	1389-90	End of Plan	1389-90	During Plan	1389-90	End of Plan	1389-90	End of Plan
Religious Institutes	8,277	12,002	768	5,863	37	41	393	666
College of Arabic Language	576	2,351	113	1,182	1	1	23	151
College of Sharia	699	2,100	117	1,199	1	1	27	131
Higher Institute of Justice(a)	19	51	1	38	1	1	8	8
College of Sharia, Mecca	286	799	49	394	1	1	27	86

Note: Detail on institutes and colleges of Islamic University, Medina, is incomplete.
(a) Higher Institute of Justice enrollment and graduate totals do not include external students.

TABLE 29

STATISTICAL SUMMARY
SPECIAL PROGRAMS FOR EDUCATION

	Students		Schools		Teachers	
	1389-90	End of Plan	1389-90	End of Plan	1389-90	End of Plan
Special Education (blind, deaf and dumb, mentally retarded)	1,238	3,181	10	14	323	686
Adult Education	40,726	77,347	592	792	1,853	3,838

Fig. 12

NUMBER OF STUDENTS AT THE END OF THE PLAN PERIOD

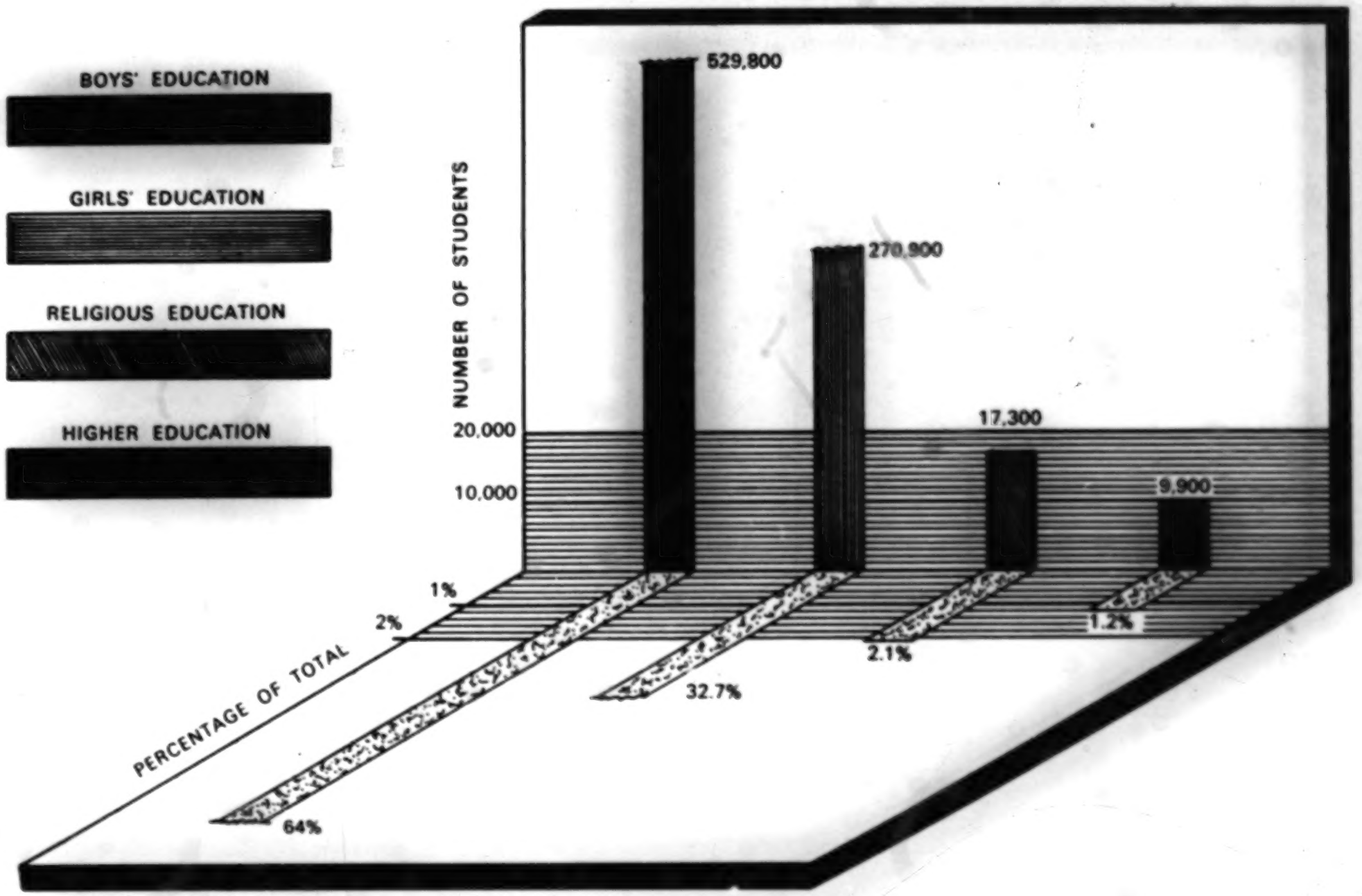


Fig. 13

GRADUATES FROM ALL LEVELS DURING THE PLAN PERIOD

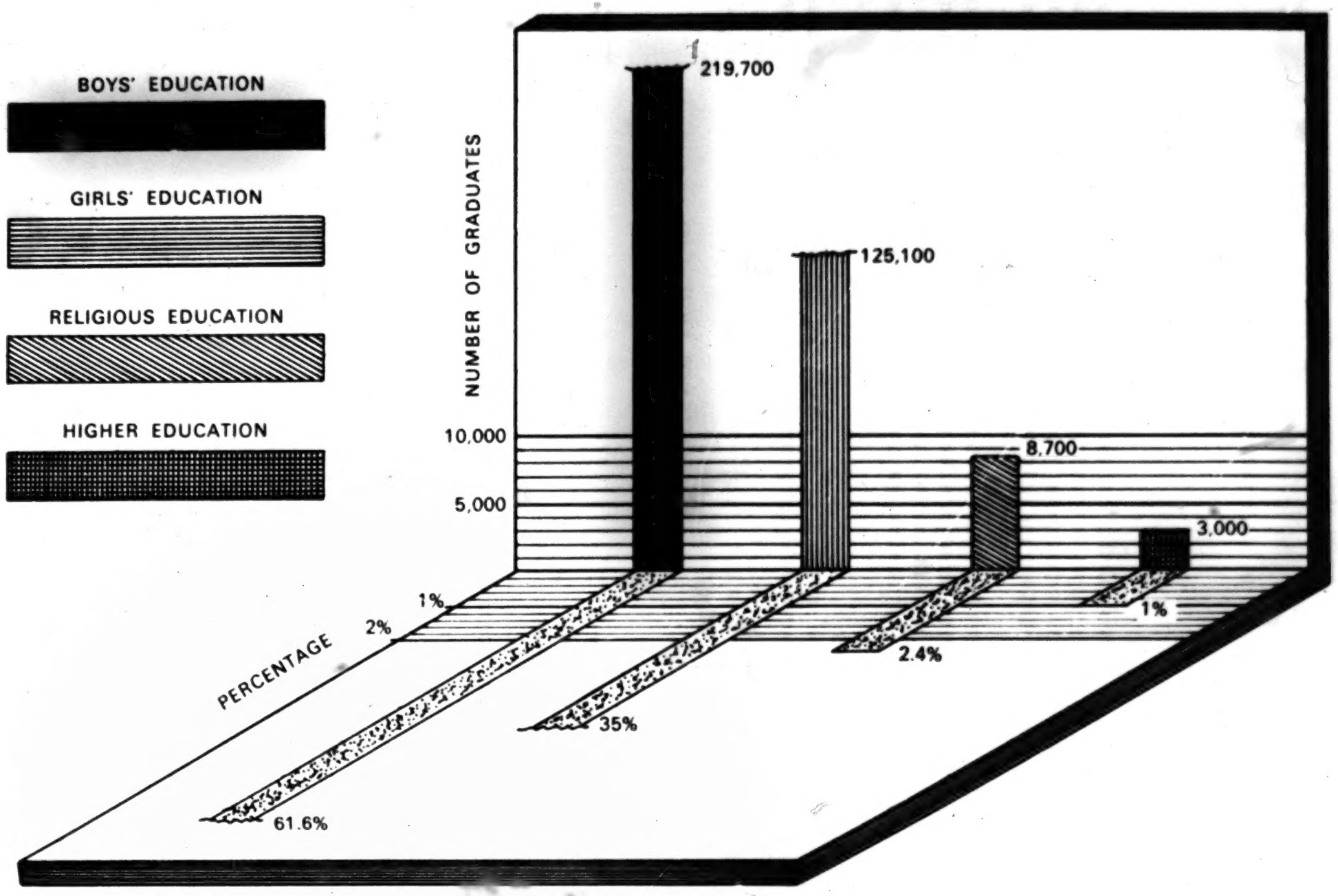


TABLE 30

FINANCIAL ALLOCATIONS FOR EDUCATION AND CULTURAL AFFAIRS

(SR Millions)

	Recurrent	Project	Total
Ministry of Education			
Boys' Education (elementary, intermediate, secondary, vocational)	3,162.0	462.0	3,624.0
Special Programs (special education, adult education and literacy, educational TV)	195.0	15.0	210.0
Cultural Affairs (libraries, antiquities)	88.0	4.0	92.0
Total (excluding colleges)	3,445.0	481.0	3,926.0
Girls' Education	941.0	77.0	1,018.0
Higher Education			
University of Riyadh (including Faculty of Medicine)	440.0	243.0	683.0
College of Petroleum & Minerals	192.0	71.0	263.0
College of Education, Mecca	39.0	6.0	45.0
King Abdul Aziz University	15.0	—	15.0
Total, Higher Education	686.0	320.0	1,006.0
Religious Education			
Religious Colleges and Institutes	380.0	65.0	445.0
Islamic University	74.0	48.0	122.0
College of Sharia, Mecca	39.0	6.0	45.0
Total, Religious Education	493.0	119.0	612.0
Total, Education and Cultural Affairs	5,565.0	997.0	6,562.0

VOCATIONAL TRAINING

Introduction

Economic and social achievements of the Saudi society dictated the establishment of centers for rapid vocational training in order to meet a feasible maximum of the skilled and semi-skilled labor requirements of the various sectors comprising the national economy.

The month of Dhul Qi'da 1383 marked the start of this movement when the first vocational training center was inaugurated in Riyadh, followed by other centers in Dammam and Jiddah in 1385-86 and in Qasim in 1387. During the plan period, it is expected that students will start graduating from the two training centers in Jauf and Khamis Mushayt, in addition six small training centers and three preparatory training centers are to be opened throughout the Kingdom.

As there exists a persistent demand for large numbers of training center graduates, the strategy of rapid training was adopted with a training session lasting from 12 to 18 months according to vocational requirements. It is projected to graduate about 6 to 7 thousand skilled or semi-skilled laborers during the plan period, excluding expected graduates from preparatory vocational training centers and the small training centers, after their establishment.

Objectives

1. **Provision of Instructors**
   a. Expansion in courses for the preparation of instructors within the capacity of the Vocational Training Center in Riyadh;
   b. Continuance in sponsoring competent young men to study abroad whether on separate scholarships or with the participation of ILO.

2. **Provision of Technical Supervisors:** Effecting work for the completion of details regarding the program for the preparation of technical supervisors with the participation of ISDC and ILO.

3. **Provision of skilled and semi-skilled labor by increasing the graduate rate of vocational training centers through:**
   a. Full utilization of the capacity of existing training centers;
   b. Opening new vocational training centers in the various parts of the Kingdom based on the economic and social feasibility of each location.

4. **Type and quality of training:**
   a. Improving the current vocational sections,
   b. Opening new sections in the light of the national economy requirements and,
   c. Introduction of modern methods for training — such as films and the so-called "teaching machines".

5. **Administrative staff:** Raising the standard of the administrative staff to the level that corresponds to the standard of the technical staff: this involves, particularly, employees working in warehouses and workshops, who are to be prepared for work in accordance with modern methods of supplies and storage.

Targets

1. To achieve the following in order to parallel expansion requirements stated in the Plan for the preparation of about 7,000 skilled and semi-skilled laborers from the vocational training centers existing during the plan period:
   a. To increase the number of instructors in the 6 training centers by about 32 during the same period;
   b. To increase the present number of sections in the 6 training centers by 33 sections during the same period.

2. Establishment of six small vocational training centers in various locations of the Kingdom based on the economical and social feasibility of each location. The production capacity of each of those centers would be to enroll and graduate 100 semi-skilled laborers annually.

3. Completion of measures for the project of juvenile preparatory vocational training centers as soon as possible and establishing three centers of this type according to the offer presented by the UN organizations of UNICEF and ILO.

4. Cooperation with private institutions for on-the-job training of more than 3,600 laborers during the plan period.

Programs

1. Opening new vocational sections in the current six vocational training centers: Table 31 shows the present technical sections and those to be opened during the plan period for each Center (See Fig. 14).

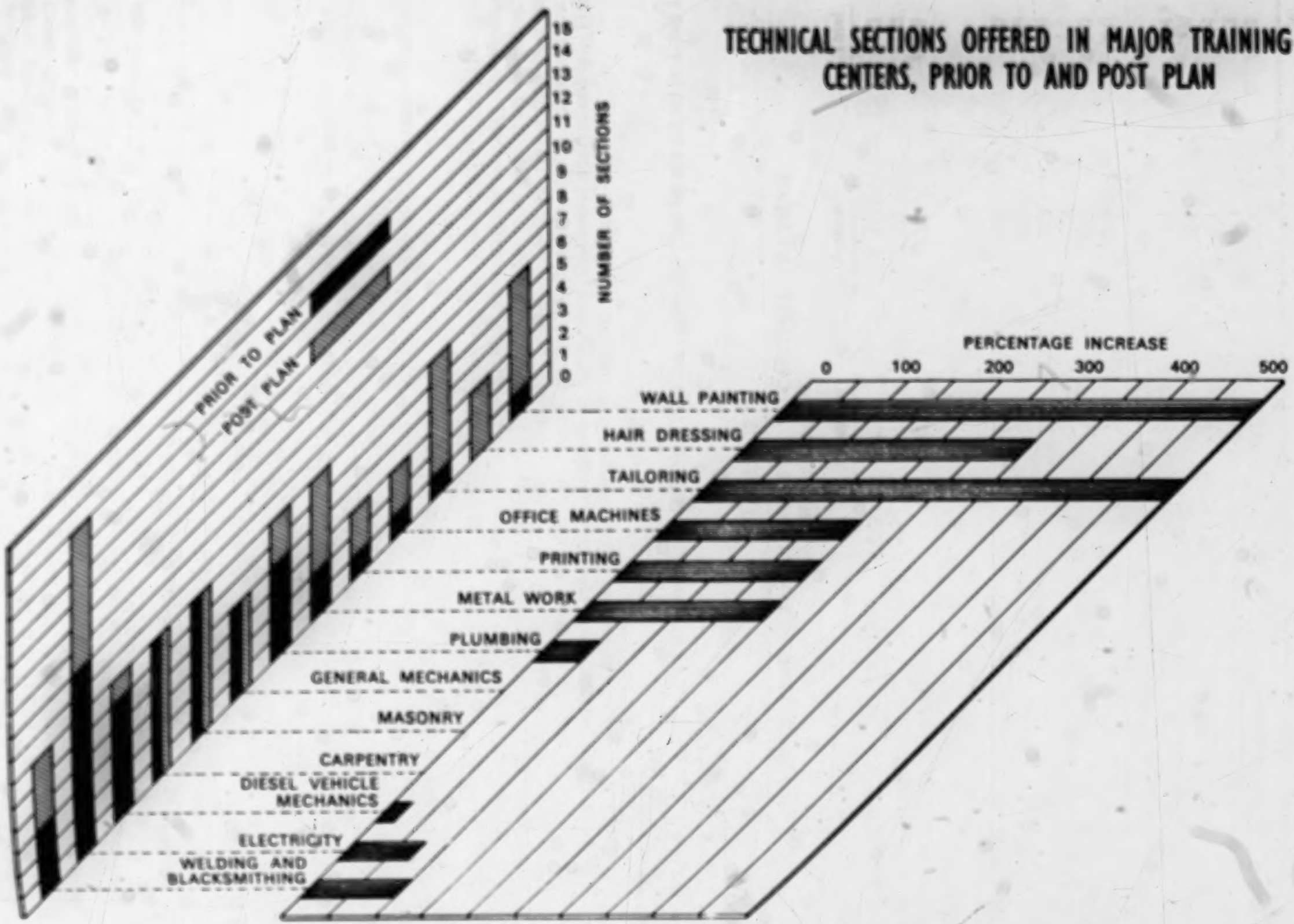
TABLE 31

TECHNICAL SECTIONS PRIOR TO AND POST-PLAN

Vocation	1389-90	End of Plan Period
Welding and Blacksmithing	3	6
Electricity	8	14
Diesel Vehicle Mechanics	5	6
Carpentry including its branches	6	6
Building including its branches	6	6
General Mechanics	4	4
Plumbing	4	6
Metal Working	2	6
Printing	1	3
Office Machine Maintenance	1	3
Sewing	1	6
Barbering	—	3
Painting	1	6
Total	42	75

Fig. 14

TECHNICAL SECTIONS OFFERED IN MAJOR TRAINING CENTERS, PRIOR TO AND POST PLAN



TECHNICAL RECORD OF WORK DURING ENGINE
MAY TO OCTOBER 1944

2. Conducting continuous research to survey local circumstances and conditions, and estimation of labor force supply and demand for all vocations requiring official training, and to improving training programs at a pace corresponding to the development of the program of general education with main emphasis on Mathematics and Properties of Materials and the other sciences upon which the modern training programs depend. Studies will include the various feasible facilities for guidance in order to encourage respect for productive manual labor. The project for establishing the preparatory vocational centers is considered a step towards this goal.

3. Establishment of six small centers for vocational training in six main cities that would accommodate the following trades:

   a. Construction and its branches

   b. General carpentry

   c. Electricity

   d. Mechanical work, painting and plumbing

   e. A trade that would be appropriate to the local environment within which the center is located. For example, the centers located in Medina and al-Hasa would prepare for a trade that would benefit from palm trees such as manufacturing from palm leaves, and the like, (see Fig. 15).

   The expenses relating to each of those centers reflect the student enrollment as the costs per student were principally estimated at about SR 10,000 annually.

4. Completion of procedure for the conclusion of an agreement with UNICEF and ILO for the establishment of three preparatory vocational centers (i.e., prior to vocational training). The objective of this project is to train juveniles in the 13 to 17 year group who drop out of elementary schools or who graduate from elementary education but fail, for some reason or other, to pursue their intermediate study. The graduates of those preparatory centers are entitled to enroll in the vocational training centers or benefit from training programs of industrial institutions (industrial apprenticeships). (Fig. 16 shows the summary of the various training programs during the plan period).

Financial Allocations

The financial allocations for the programs included in the Plan for vocational training are shown in Table 32.

TABLE 32

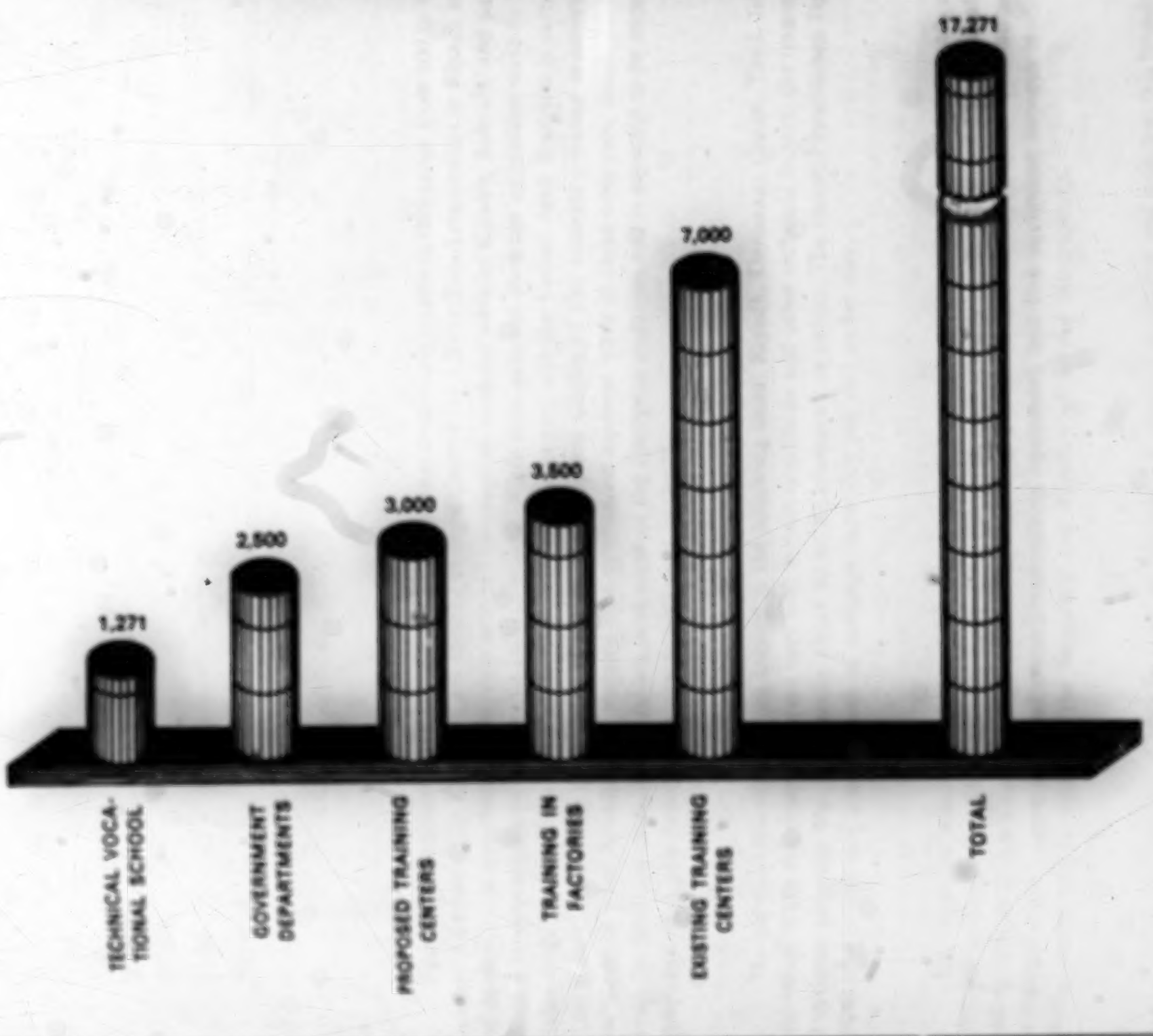
FINANCIAL ALLOCATIONS FOR VOCATIONAL TRAINING
(SR Millions)

Program	Recurrent	Project	Total
Current Programs	51.0	8.0	59.0
Expansion Requirements	37.0	4.0	41.0
Subtotal — Current Programs	**88.0**	**12.0**	**100.0**
New Programs			
Small Training Centers			
Al-Hasa	3.0	2.0	5.0
Wadi Al-Dawasir	3.0	2.0	5.0
Hayil	3.0	2.0	5.0
Bilad Ghamid-wa-Zahran	3.0	2.0	5.0
Medina	3.0	2.0	5.0
Mecca	3.0	2.0	5.0
Preparatory Vocational Training Centers			
Riyadh	2.0	0.4	2.4
Dammam	2.0	0.4	2.4
Jiddah	2.0	0.4	2.4
Subtotal — New Projects	**24.0**	**13.2**	**37.2**
GRAND TOTAL	**112.0**	**25.2**	**137.2**

VOCATIONAL TRAINING PLAN

FIG. 15

OUTPUT OF TRAINED WORKERS DURING THE PLAN PERIOD



Introduction

The Ministry of Information operates 18 radio transmitters and 7 television transmitters for broadcasts in the public interest. The radio broadcasting system includes frequency modulation (FM), short wave (SW), and medium wave (MW) transmitters, located as follows:

Transmitters

Location	FM	SW	MW
Riyadh	1	4	5
Jiddah	—	3	4
Dammam	—	—	1
Total	**1**	**7**	**10**

The daytime medium wave broadcasting covers areas from these locations that range from 100 to 400 kilometers in radius. All areas of the Kingdom are covered at night time by the 1,200 kilowatt transmitter in Riyadh and at all times by the short wave transmitters. Daytime external coverage on medium wave to Kuwait, Bahrain, and part of the Gulf States is being provided by the Dammam transmitter. Night time external coverage on medium wave to Syria, Jordan, Sudan, and Iraq as well as some areas of East Africa, Lebanon, and the United Arab Republic is carried out by the 1,200 kilowatt transmitter in Riyadh. However, the reception quality of this external coverage is adversely affected by the numerous other broadcasting stations that operate on medium wave in these countries. Short wave broadcasting covers the Arab countries, North Africa, and some of the European countries and is expected to be improved with the completion of a new four-transmitter project now underway.

The television transmitters are located in the following cities: Riyadh, Dammam, Qasim, Tayif, Jiddah, Medina, and Mecca. While the reception areas vary with terrain conditions and other technical factors, the transmitters provide a maximum coverage that is generally about 40 to 50 kilometers in radius. The recently established Dammam transmitter may exceed this area as tests of coverage capability are still under way.

The degree to which a radio or television system can provide reliable broadcast service depends upon the availability of reserve power and transmitting equipment. However, such standby equipment is not on hand at all of the broadcasting facilities at this time, although some items have been purchased and others are under installation. There is still a requirement for reserve electrical power, transmitting equipment, and link equipment between studios and broadcasting transmitters to minimize the frequency and duration of service interruptions.

A substantial number of engineers and technicians are required to operate and maintain this broadcasting system. The Ministry of Information has had to rely heavily on foreign personnel, contracting with companies and with individuals for the necessary staff. Meanwhile, Saudi personnel have been sent abroad for training and some are beginning to return to take positions with the Ministry. The numbers, however, are still small in comparison to needs.

Objectives

1. To improve programming and communication within the existing medium and short-wave radio system.
2. To extend local and external medium-wave broadcast coverage in all border regions of the Kingdom;
3. To expand the capability of short wave stations in Jiddah;
4. To improve and expand the capability for mobile and remote broadcasting;
5. To expand television coverage to selected areas in the south, north, and central regions that are not now receiving programs;
6. To improve communications between elements of the television system;
7. To provide research facilities for broadcast monitoring, surveillance, and measurement;
8. To provide for the safeguarding of projects currently underway to protect the public and the installations.
9. Construction of a new building adequate for the technical requirements of the Ministry's offices to replace present offices.

Proposed Programs (See Fig. 17)

Several projects have been planned to achieve improvements in programming and in communication within the existing radio system. One project calls for the construction of a radio single-sideband transmitter (30 kilowatts) at Riyadh and a reception station at Jiddah to provide for transmission of radio programs from Riyadh to Jiddah as well as for wireless communication between these two cities. This system would replace the current method of using telephone lines for such transmissions; telephone lines lack the capability of transmitting sufficient band width for the reproduction of music.

A similar project looks to the purchase and installation of an FM broadcasting link betweem the Riyadh studios and the broadcasting transmission station on Dariyah Road. This system would replace the existing link equipment which is outdated, wearing out, and subject to frequent breakdown.

To provide a reserve link between the new Riyadh studios and the megawatt station on Khurais Road, a coaxial cable link system presently under installation is to be extended to include these two facilities.

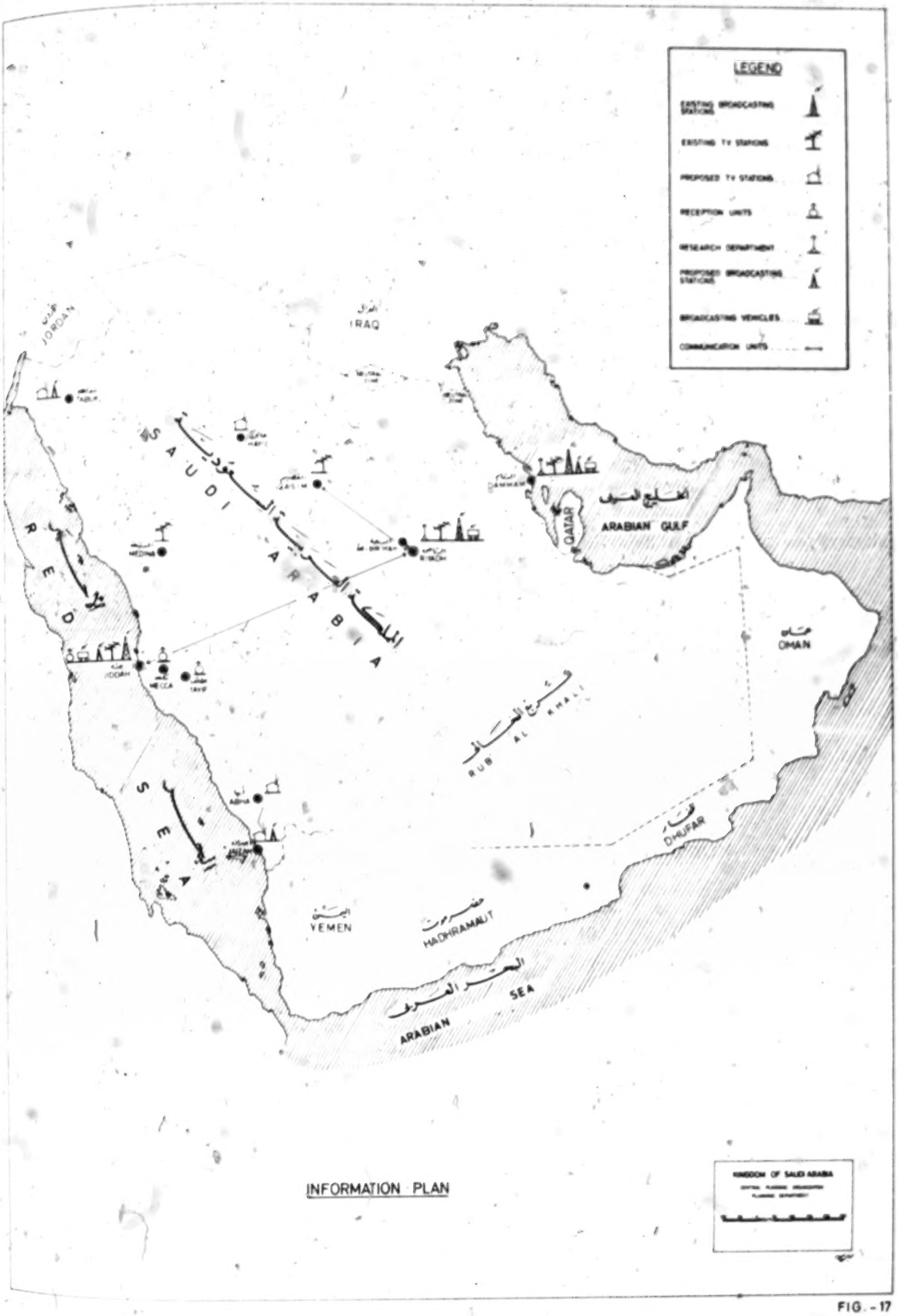
Continued improvement of the facilities for broadcasting in the Holy area includes construction of a broadcasting shed in Arafat.

Four projects are directed toward extending local and external medium wave broadcast coverage in border regions of the Kingdom. The largest of these, the "North Stations Project", calls for installation of a medium wave transmitter system to cover the north region and nearby countries of the Arab world. A 500 to 750 kilowatt transmitter is proposed for installation at Dammam to provide day and night coverage of the Eastern Province and the Arab Gulf States. This second station in Dammam would ensure reliability for continuous broadcasting in the event of breakdown of one transmitter.

A similar station is planned for Jiddah to cover the western coast and the entire Hijaz area, again providing a second station for this area to assure continuity of service. The fourth station, also a 500 to 750 kilowatt installation, is to be located in Jaizan to provide coverage of the southern area of the Kingdom. At present, there is no day coverage of this region by medium wave broadcasting. The plan for this station also includes a provision for receiving programs and radio communication from Jiddah. Cost estimates for these four projects include site selection and acquisition, construction and equipment costs, and maintenance for the first year of operation.

The three short wave stations in Jiddah are of relatively high capacity but are limited in their application because of the limitations of the aerial systems. Only one of the stations can operate in a given direction at a specific time because of this limitation. It is planned to add a semi-directed aerial at the station on Kilo 29 to increase the efficiency of the transmitters and provide more flexibility in broadcasting and range.

Mobile units that are, in effect, mobile studios provide a capability for location coverage of events for either direct broadcast or rebroadcast. At present, the broadcasting of out-studio programs is carried on through telephone lines as the two existing mobile units are out-dated and incapable of providing the remote service that is required. The plan calls for replacing the units at Riyadh and Jiddah with new equipment and adding a third unit to be located at Dammam.



INFORMATION PLAN

FIG. - 17

Three television stations are to be added to the television system during the plan period, with locations at Abha, Jaizan, and Tabuk. In the event that the Abha-Jaizan area can be served by a single transmitter with the necessary associated equipment to provide appropriate coverage, the third transmitter would be located at Hayil.

Communications between the television stations at Riyadh and at Qasim (Buraydah) are unreliable. It is planned to install a transmitter/receiver system similar to that planned for radio between Riyadh and Jiddah to ensure communications between Riyadh and Buraydah.

The establishment of a research unit in the Directorate of Engineering Affairs includes the construction and equipment of a scientific laboratory. This laboratory would be capable of monitoring broadcasting to correct frequencies as well as to maintain surveillance for unauthorized broadcasting. Provisions would be available for making various measurements for radio and television broadcasting to very close tolerances, an essential requirement for quality broadcasting.

Facilities for the Nazla transmitting station at Jiddah and the short wave station on Khurais Road in Riyadh are reaching a point in construction where protective walls are required to eliminate hazards to passersby and to the equipment. The electric plants and the towers in particular are dangerous and all possible safeguards should be employed. Construction of the protective walls should be accelerated.

It is planned to construct an office building of appropriate design for the radio and television element of the Ministry of Information in Riyadh, replacing the present facilities which occupy a former villa.

Statistical Summary

Table 33 shows the number of radio transmitters, mobile units, and television stations in the year preceding the Plan and by the end of the Plan.

Financial Allocations

The financial allocations for the programs included in the Plan for Public Information — Radio and Television — are shown in Table 34.

TABLE 33

STATISTICAL SUMMARY

PUBLIC INFORMATION — RADIO AND TELEVISION

	1389-90	End of Plan
Medium wave radio transmitters	10	14
Short wave radio transmitters	7	7
FM radio transmitters	1	1
Television stations	7	10
Mobile units	2	3

TABLE 34

FINANCIAL ALLOCATIONS FOR PUBLIC INFORMATION — RADIO AND TELEVISION

(SR Millions)

Ministry of Information	Recurrent	Project	Total Expenditure
PRESENT PROGRAMS	402.2	25.0	427.2
PROPOSED PROGRAMS			
Radio Facilities			
a. Riyadh-Jiddah link	1.7	2.9	4.6
b. Riyadh-Dariyah FM link	0.3	0.5	0.8
c. Riyadh cable extension link	0.1	0.1	0.2
d. Arafat broadcasting shed	—	(a)	(a)
Medium Wave Stations			
a. Northern stations	30.8	105.0	135.8
b. Jiddah station	7.4	13.4	20.8
c. Dammam station	7.1	12.8	19.9
d. Jizan station	9.5	17.0	26.5
Semi-directed Antenna	0.3	0.7	1.0
Mobile Units (3)	2.6	7.5	10.1
Television Stations			
a. Abha-Khamis-Mushayt	3.1	2.8	5.9
b. Tabuk	3.1	2.8	5.9
c. Jizan or Hayil (if Hayil, recurrent is 2.1)	3.1	2.8	5.9
Riyadh-Buraydah link for TV	0.5	0.4	0.9
Protective Walls			
a. Jiddah site	—	0.1	0.1
b. Riyadh site	—	1.7	1.7
Research Unit	1.4	0.8	2.2
Office Building	—	9.0	9.0
Proposed Programs - Sub - total	71.0	180.3	251.3
TOTAL	**473.2**	**205.3**	**678.5**

(a) *under SR 50,000*

CHAPTER VI

HEALTH AND SOCIAL AFFAIRS

Improvements in the health and well-being of individuals and communities are necessary to enable the various elements of society to contribute more effectively to development, and to benefit more extensively from the process of development.

To achieve this objective the development plan for health and social affairs provides for:

1. Improvement and expansion of health services, with strong emphasis on raising the standard of existing services, on development of preventive services, and on education in health and nutrition;
2. Expansion and improvement of social welfare programs;
3. Implementation of recently enacted legislation on conditions of employment of labor; and,
4. Raising standards of housing, in particular the housing of lower income groups.

As measured by their contribution to GDP, health services are planned to expand at an average annual rate of 9.5 percent compared with the rate of 2.4 percent experienced over the three years up to 1388-89. The corresponding figures for ownership of dwellings are 8.6 percent and 7.0 percent, respectively.

HEALTH AND NUTRITION

Medical services have expanded greatly in recent years: by 1390, total doctors in the Kingdom numbered 1020 and paramedical staff 3,750 of whom 2,400 are qualified. Over the last 5 years hospital beds have increased by 30 percent, dispensaries by 60 percent; and health centers by more than 200 percent.

This rapid expansion has been characterized by:

1. Growing problems of manpower and organization;
2. Emphasis on curative services at the expense of preventive medicine;
3. Increasing community awareness of the benefits to be obtained from improved medical and health services which has been accompanied by increased demand for more and better services; and,
4. Insufficient research into the basic requirements of a health program that will reduce morbidity and mortality most effectively through the employment of limited human and financial resources in preventive and curative medicine.

It is necessary to undertake a review and basic restructuring of policies and programs for the provision of medical and health services within a realistic assessment of the constraints on expansion imposed by available manpower, limied financial resources, and the community's willingness to accept changes in the terms on which medical services are provided.

Improvement of the health and nutrition of the Kingdom does not depend exclusively on health services provided by government through the Ministry of Health.

In addition to private sector health services, agencies of government other than the Ministry of Health that are engaged in activities affecting the health and nutrition of the people include:

1. The Armed Forces through the health services provided to its personnel and their dependents;
2. The Ministry of Education through its school health services;
3. The Ministry of Labor and Social Affairs through the provisions of labor and social security legistaltion;
4. The Ministry of Agriculture through its programs for the expansion of food production and construction of urban and community water supplies;
5. The Ministry of Interior through its responsibilities for urban development, environmental sanitation, and operation of urban water supply systems; and,
6. The Red Crescent Society which provides emergency and first-aid services.

In meeting its overall responsibility for the health and nutrition of the society as a whole, the Ministry of Health is concerned, to some degree, with each of these activities.

The following tabulation shows the total health labor force of the Kingdom in 1390 and projected for the final year of the Plan: (See Fig. 18)

	1390	Final Year of the Plan
Doctors	1,020	1,600
Technicians (qualifed)	2,400	5,300

In 1390, about two-thirds of the forces in this sector are employed by the Ministry of Health. Although the Ministry's policy encourages the private health sector, the Ministry is expected to develop three-quarters of the required increase, leaving the balance to be developed by the private sector and other government agencies.

Formulation of a comprehensive and scientific health plan of the kind required to achieve a major impact on morbidity and mortality rates — for example, reduction in the infant mortality rate — will require concentrated and continuous study over several years. During this period, basic information relating to the epidemiological distribution of diseases, death, and environment and community factors will be collected and analysed.

Meanwhile it is necessary to formulate and implement basic changes in the policies and programs of the Ministry of Health to prepare the way for formulation and implementation of such a plan. Thus the present plan is focussed on the improvement of the health services and programs of the Ministry of Health.

Objectives

The Plan for health consists of two phases: The first covers the first two years of the Plan, and the second the remaining years of the Plan. Emphasis during the first phase will be placed on achieving the following objectives:

1. Making more effective use of the technical manpower employed in providing health services
2. Improving standards of sanitation, diets, services, maintenance and supplies in existing facilities
3. Undertaking studies of policies relating to the following:
   a. Full or part-time employment of doctors;
   b. Registration of patients or collection of nominal fees for medical services; and,
   c. Encouraging the development and improvement of health services provided by the private sector
4. Preparing and implementing a preventive health services program.
5. Studies required for the implementation of the second phase of the Plan.

Other objectives of this first phase are to increase the number of doctors and technicians working in health services and to expand and improve the training facilities for technicians. No new health facilities will be established during this phase; however, the structures and equipment of existing facilities will be improved and some that have already been constructed will be opened for services.

The objectives to be achieved during the second phase are to:

1. **Increase the number of doctors and technicians and expand training programs;**
2. **Expand preventive health services;**
3. **Commence the construction of new facilities and the reconstruction of old ones in accordance with the requirements of a general health network for the country that will provide health care throughout the Kingdom; and,**
4. **Complete the studies required for the preparation of a scientifically based plan for the future development of health services that will, within a decade:**
   a. **Lead to improved standards of health throughout the Kingdom;**
   b. **Reduce morbidity and mortality caused by infectious diseases and nutritional deficiencies through concentration on preventive health services; and,**
   c. **Increase the proportion of Saudi doctors and technicians from, respectively, 15 and 23 percent to 30 and 70 percent.**

Targets

Because the major constraint on the development of health services lies in the field of manpower, the main targets of the Plan relate to manpower and training. The targets for the quantity of professional and technical manpower, as identified in the health services plan, are twofold:

1. **Increase the number of doctors in public health services from 775 in 1390 to 1200 by the last year of the Plan; and,**
2. **Increase the number of qualified technicians in public health services from 2,195 in 1390 to 3,900 by the final year of the Plan.**

The targets for increasing the proportion of Saudis employed as doctors and technicians at the end of the Plan are: (See Fig. 19).

1. **Saudi doctors: from 15 to 35 percent; the target figure is based on the numbers of students already pursuing medical studies who can be expected to graduate and accept employment during the period of the Plan.**

NUMBER OF DOCTORS AND TECHNICIANS

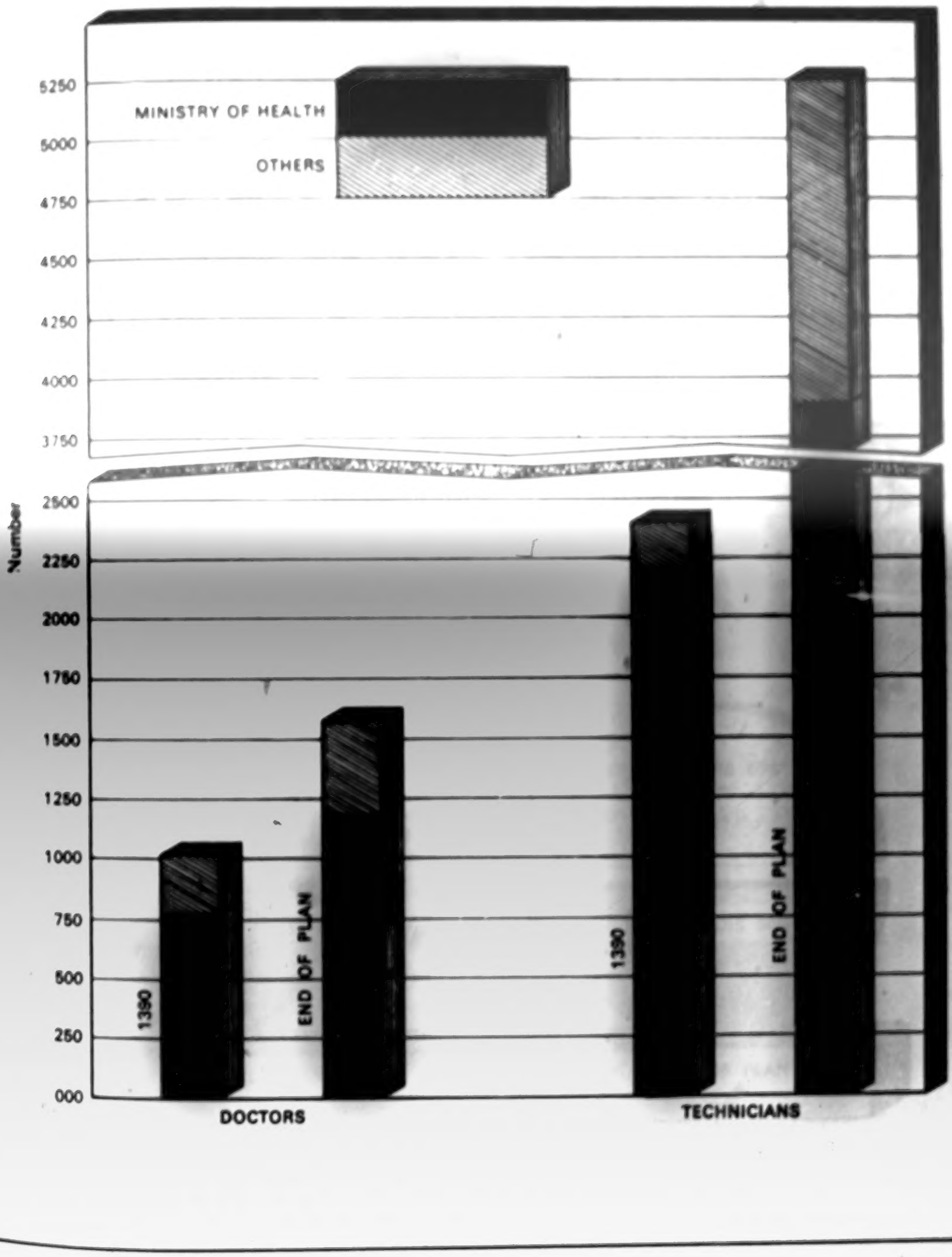
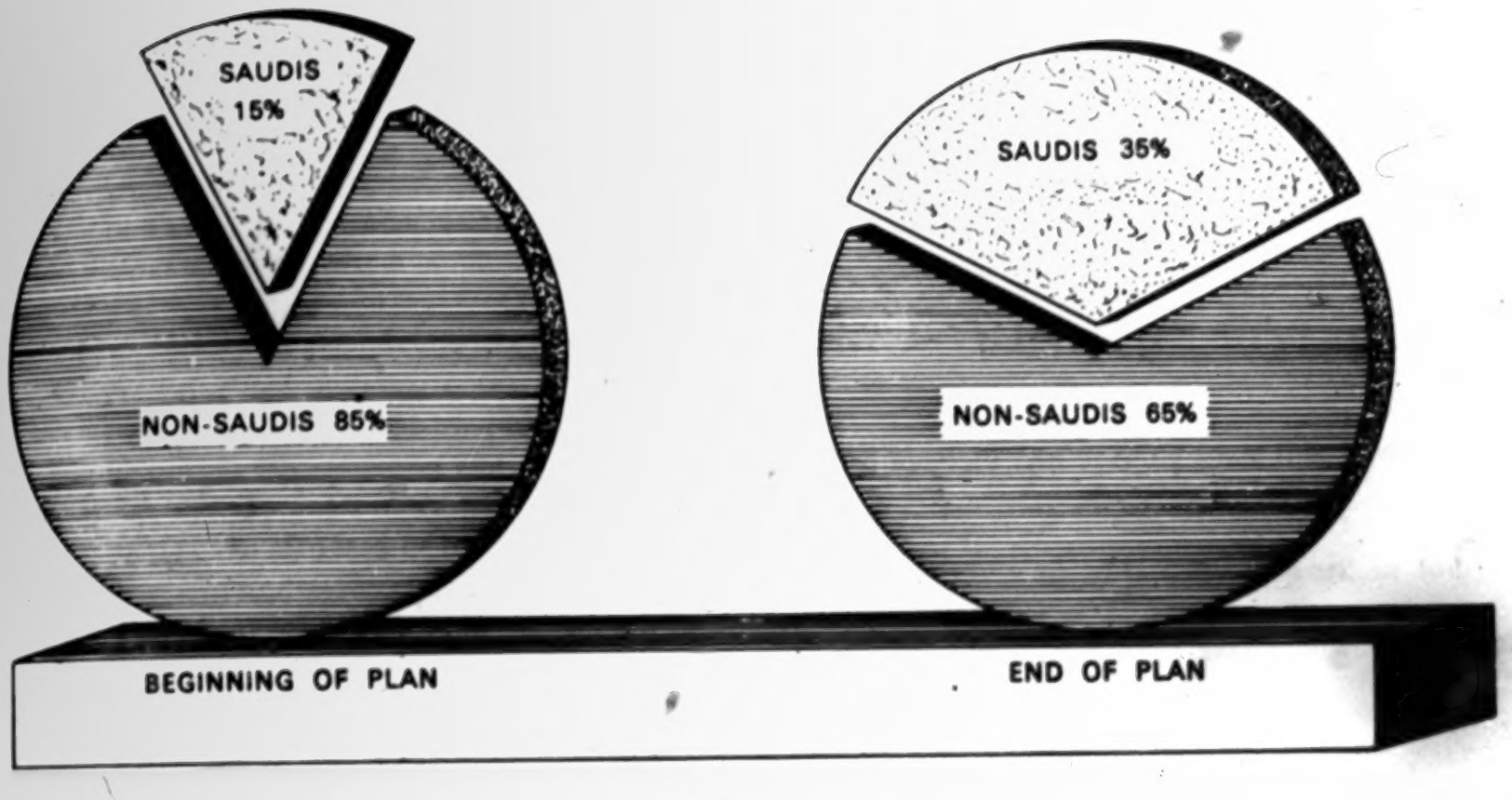
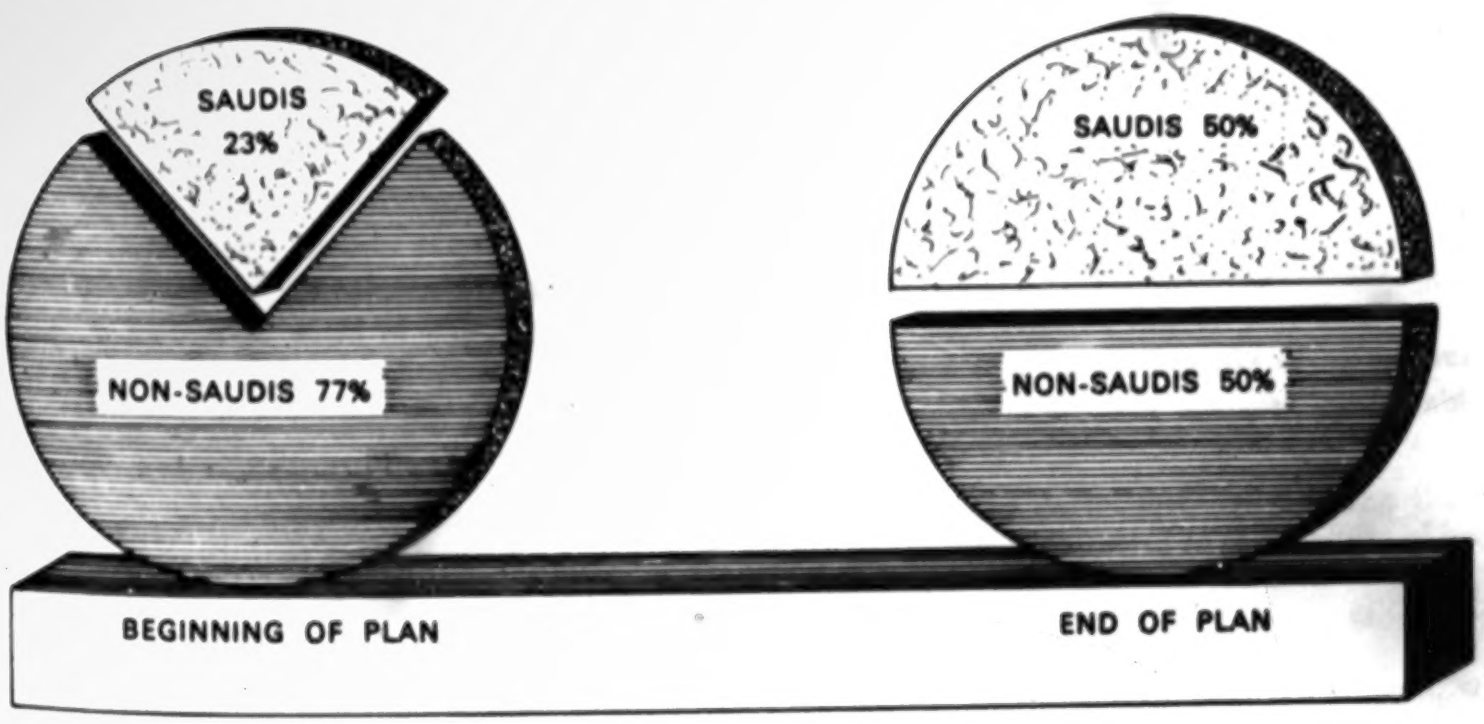


Fig. 18

PROPORTION OF SAUDIS EMPLOYED AS DOCTORS AND TECHNICIANS



DOCTORS



TECHNICIANS

Fig. 19

2. **Saudi technicians**: from 23 to 50 percent; the target figure calls for rapid expansion in the output of training institutes, so that total graduates by the end of the Plan are increased from the 775 that existing programs can produce to the required 1,425.

The targets for specialized training in preventive medicine and health administration are:

1. **Doctors**: 76 for one-year courses, 25 for six-month courses, and 4 for two-year courses.
2. **Technicians**: 149, mostly for one-year courses but a few of whom will take extended courses of four years, and 54 for six-month courses.
3. **Administrators**: 27 for two-year courses and 150 for six-month courses.

Other targets that have been set for the first phase of the Plan are:

1. Strengthening the Planning, Programming and Budget Unit of the Ministry of Health;
2. Implementing basic improvements in the organization of health services;
3. Improving sanitation, diets, services and maintenance in existing institutions;
4. Improving management of stores and distributions of supplies;
5. Implementing the conclusions of studies on:
   a. Full or part-time employment of doctors;
   b. Payment of nominal fees for medical treatment or registration of patients; and,
   c. Means of encouraging the development and improvement of private sector services.
6. Preparing and initiating a program for preventive health services;
7. Expanding Riyadh Health Institute;
8. Improving the structures and equipment of some health facilities and opening some that have already been constructed;
9. Raising the standard of health and vital statistics
10. Preparing and performing a program for field and clinical research based initially on work in four selected rural community centers; and,
11. Defining the organizational, manpower and physical requirements of a national health network and identification of priorities for strengthening and completing the network.

Programs and Projects

The following programs are proposed to achieve these targets. It may be necessary to change the scope and content of some programs as statistical data and research information are improved during the first phase of the Plan.

Administrative Improvement

The organization of the Ministry as well as the functions of its departments and sections have recently been defined. Subject to any necessary changes, administrative improvements are proposed within this structure. These will require the following:

1. Strengthening the Planning, Programming and Budget Unit to provide a focal point for:
   a. Investigation of health problems relating to morbidity and mortality rates;
   b. Definition of problems and priorities for their solution; and,
   c. Determination of the required allocations of manpower and finances.
2. Restructuring of salaries to provide adequate incentives for improving efficiency;
3. Definition of rates of pay and terms of service for doctors engaged full or part-time;
4. Sufficient decentralization of functions and responsibilities to make fullest use of manpower capabilities;
5. Coordination within the Ministry, and between the Ministry and other agencies, both public and private, concerned with health and nutrition.

These proposed improvements in administration will be directed particularly to reducing the administrative burden of professional staff so as to free them to concentrate on medical work directed to the solution of health problems.

Supplies and Stores

Time is wasted in distributing medical supplies by having the central supply stores in Riyadh, with subsidiary stores in Jiddah and Mecca only. It is proposed to decentralize stores during the first year of the Plan under the guidance of an expert in stores management from the World Health Organization.

Food in Hospitals

The diets provided in hospitals should conform with both the dietary habits and the foods available in each area: the former because it contributes to the welfare of the patient and the latter for reasons of economy.

At present, SR 15 million or about 10 percent of the health budget is spent on food provided to patients each year. It is proposed to spend about SR 500,000 on a study of regional diet patterns and food supplies. The results of this study are expected to lead to improved diets and reduced hospital food costs, and to provide the basis for developing a program of health education in nutrition.

Manpower Development

It is necessary to increase the ratio of doctors and technicians to population, and to redistribute them between urban and rural areas so as to provide increased care in rural areas. It is also necessary to increase the ratio of doctors and technicians trained to work in preventive services as such services could control more than 70 percent of diseases.

Technicians are particularly important in a developing country for the following reasons:

1. They can relieve doctors of some of their work;
2. They cost less to train and employ;
3. They more readily accept employment in remote areas:
4. They are closer to the people, and their standards are directly reflected in medical services provided to the public; and,
5. As nationals, they are better equipped by background to work in traditional communities.

Doctors Graduating. Three hundred doctors are expected to graduate and accept employment during the Plan. This figure allows for failures and pursuit of post-graduate studies.

Training of Technicians. The Plan provides for expanding the capacity of health training institutes and improving the quality of training; moreover, it will encourage graduates to pursue follow-up training and thus prevent deterioration of their skills. Attention will also be concentrated on training female nurses.

To resolve the problems which prevent training institutes and nursing schools from providing an adequate supply of qualified technicians it is proposed to:

1. Raise the standard of instruction;
2. Provide better training facilities; and,
3. Provide incentives to students.

It is expected that at least 6 health training institutes and 6 nursing schools for girls will be required to meet the objective of increasing the Saudi proportion of technicians to 70 percent.

The first phase of development will be to expand the capacity of the Riyadh Health Institute to receive a total enrollment of 360 trainees instead of the 215 that can be enrolled in 1390-91. Expansion of the Institute is planned in two phases: the first to permit increasing the enrollment by 100 additional trainees in 1391-92; the second a further increase in enrollment by 120 trainees in 1392-93.

Expansion and establishment of other institutes and nurses' schools cannot be specified until further studies have been completed.

Other Training Fields. Preliminary studies have shown that the minimum requirements of an effective program of public health include the following:

Doctors with public health specialty	76
Technicians trained in public health	149
Administrative staff	27

Table 35 shows the number of staff, by specialty and location, proposed to be given training during the Plan.

TABLE 35

NUMBER OF TRAINEES EXPECTED DURING THE PLAN BY SPECIALIZATION AND LOCATION OF TRAINING

Location of Training	Category	Academic Qualifications	Type of Training	Duration	No. of Trainees
Selected Universities	Physicians	Physician	Public Sanitation	1 year	76
	Assistants, etc.	Secondary	Public Sanitation	5 years	149
		Secondary	Public Sanitation	1 year	
		Science	Public Sanitation	1 year	
	Administrators.	Arts / Science	Administration	2 years	27
ARAMCO	Physician	Physician	Maternity and child care	6 months	25
	Assistant technicians	Graduate of Health Institute	Public Sanitation	6 months	
Institute of Public Administration	Administrators		General Administration	6 months	150
American University, Beirut	Physicians	Physician	Maternal care	2 years	4
	Technical assistants	Graduate of Health Institute	Maternal care	6 months	4
	Technical assistants	Graduate of Health Institute	Bilharzia	6 months	25

Health Network

The National health network must be defined and completed to ensure the availablility of preventive and curative health services through the Kingdom and to effectively delegate responsibility for adequate services at different levels.

Network headquarters and most national institutions concerned with health services will be located at Riyadh. Preliminary investigations indicate that the remainder of the network should consist of 6 health regions and 18 health units as described below (see Fig. 20).

Health Regions. The Kingdom will be divided into six health regions that will be responsible for the provision of curative as well as preventive services. Each health region would have a central hospital, and, depending on regional requirements and characteristics, specialized hospitals for tuberculosis, leprosy and senility diseases, each accomodating 300 beds. A health institute, a nursing school and a research and studies unit would be attached to each central hospital.

The central hospital, the most important single component of a health region, will be a referral hospital (without a general outpatient clinic) staffed by medical specialists, equipped with sophisticated equipment for examination and treatment, and supplied with library, research, and training facilities. It will also be the headquarters for providing and supervising curative and preventive services in the region.

Three selected health regions would have 500-bed hospitals for mental diseases.

Each region would be subdivided into two to four health units, according to the density of population and geography of the area.

Health Units. Eighteen health units will be needed to provide curative and preventive services in each area with a population of up to about 400,000. Each health unit would have a 300-bed principal hospital in addition to local hospitals, health centers and health sub-centers.

The health centers will render their services, both curative and preventive, to the population of a village or group of villages surrounded by farms and Bedouin locations. They will generally serve communities of 10 to 20 thousands.

The function of the centers will not be limited to the treatment of patients: their basic purpose will be to transmit health care to the society as a whole, to each home or family. Each center and its sub-centers will form an integral unit operating with the guidance and support of the main hospital of the area health unit. Thus these centers will provide the foundation for health education and care for the people of the Kingdom.

Existing health facilities and services will be surveyed during the first year of the Plan within this general frame work to reach a definition of the health network required to meet the long term needs of the country. Deficiencies in th existing network will be identified during this survey and priorities will be established for strengthening the existin network to meet long term needs. Starting with the second year, it is proposed to achieve the following:

1. Gradually improve existing facilities and complete or construct new facilities as manpower and financia resources permit; and,
2. Phase out any old facilities not worth renovating.

Field and Clinical Research

A scientific plan for improvement of the health of the nation cannot be formulated without information as to th nature and causes of morbidity and mortality; thus it is necessary to conduct detailed field surveys supported by clinic research during the first two years of the Plan. This work will be undertaken at the community development centers Turabat al Bogoum, Al-Jafr, Qatif, and Manfouha/Dirayah.

Programs of Public Health

Priority programs for improvement of public health have been identified as:

1. Mother and child care
2. Health education
3. Bilharzia control
4. Vaccination and innoculation of infants below five years of age
5. Smallpox control
6. Malaria control
7. Pilgrimage health services

Work is proceeding on these programs, but progress lags because of lack of trained manpower, administra and supply problems, and insufficient research and preparatory work.

Saudi Red Crescent Society

The Saudi Red Crescent Society provides first-aid, mobile hospital, ambulance, and emergency medical servi in particular on highways where traffic accidents are numerous, and during the Hajj season.

The Plan for the society provides for the achievement of the following objectives:

1. Establishing a public relations office for promotion purposes;
2. Establishing a First Aid Training Institute;
3. Expanding and improving its services throughout the plan period with particular attention to services nee during the Hajj season; and,
4. Establishment of a mobile hospital in the last year of the Plan.

Financial Allocations

Detailed planning is necessary to define with confidence the costs of the programs and projects described ab moreover, the rate of progress in programs requiring substantial investments will depend to a considerable degree on financial constraint imposed by competing demands for financial resources.

Public funds allocated in 1389-90 to health services, including the Saudi Red Crescent Society, amounted SR 173.8 million. The proposed allocation for the last year of the Plan is estimated at about SR 350 million.

The proposed increase in the allocation of the health plan corresponds to an average annual increase of 15 perc that is, a total increase over the period of the Plan of 100 percent, compared with increases of 55 percent in the nu of doctors and 78 percent in the number of technicians.

A higher percentage increase in financial allocations than in numbers of doctors and technicians will pro

1. The extra supporting services and supplies that will be required to make more effective use of health manp and,
2. Capital expenditures to improve existing facilities and construct and equip new facilities.

The proposed financial allocations for Health and Nutrition are shown in Table 36.

HEALTH NETWORK

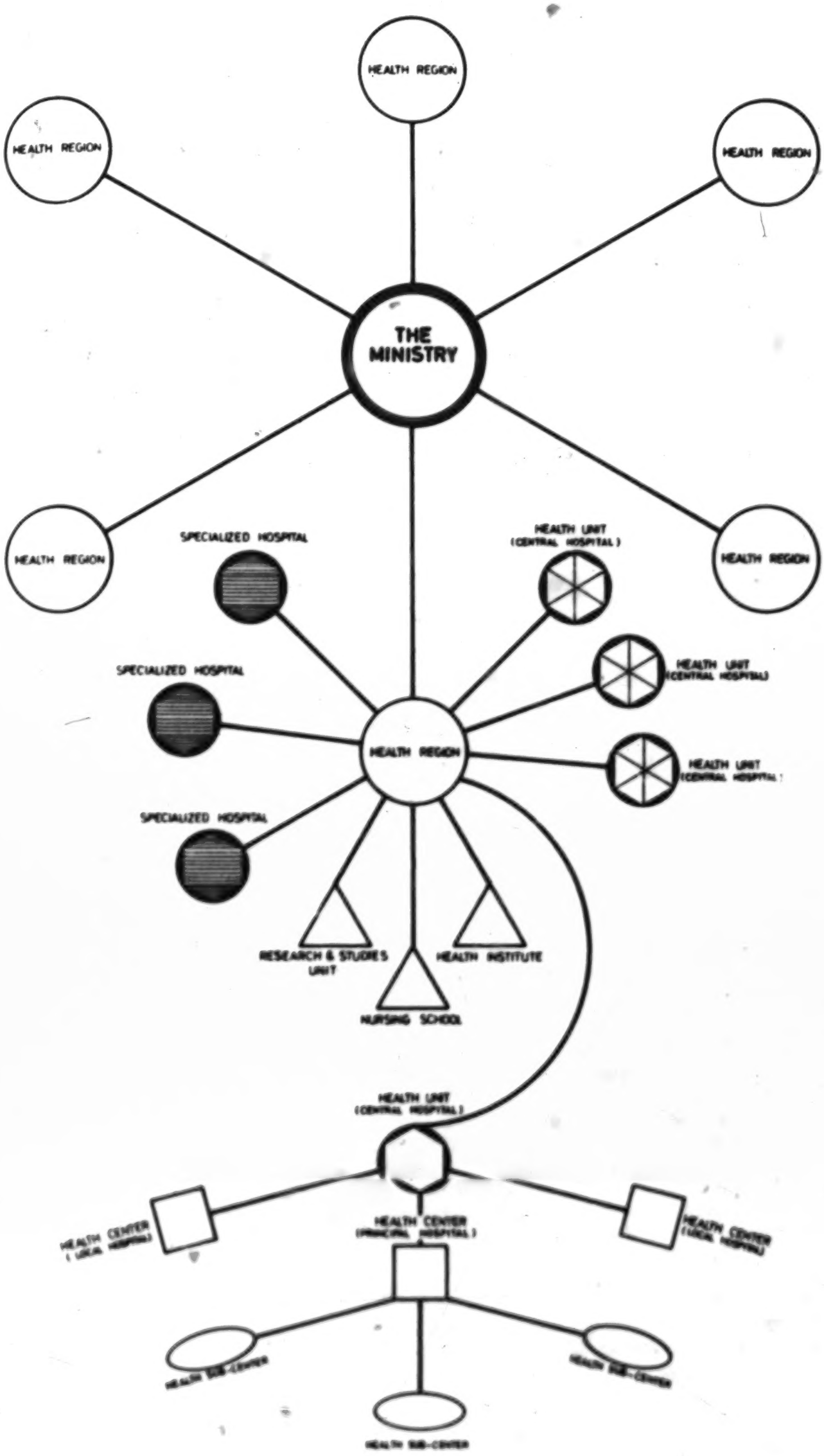


FIG. - 20

TABLE 36

FINANCIAL ALLOCATIONS FOR HEALTH AND NUTRITION

(SR Millions)

	Estimated Costs		
	Recurrent	Project	Total
Ministry of Health			
Personnel	559.6	—	559.6
Supporting Services	495.0	242.8	737.8
Red Crescent Society	42.6	—	42.6
Total	**1,097.2**	**242.8**	**1,340.0**

SOCIAL AFFAIRS

The social affairs program of the Ministry of Labor and Social Affairs covers five areas:

1. Social Welfare
2. Social Security
3. Community Development
4. Cooperatives
5. Youth Welfare

Social welfare, sometimes also known as institutional care, is concerned with providing, through the institutions under its control, temporary or long term relief and assistance for individuals in distress because of economic, social, or physical circumstances. Although most of this effort involves young people, there are also provisions for the care of the aged and the disabled who usually are without families or other means of assistance. Three institutions, located in Riyadh, Mecca, and Medina, are operated for this purpose.

Youth care activities include institutions that not only accomodate orphan boys and girls, but also provide for their academic and vocational education. More than 900 juveniles were receiving care under this program of social educational institutions and social orientation institutions in 1389-90. The program of care for foundlings and infants separated from their mothers has utilized the foster family and alternative family concepts, supported by government payments for such child care. As of 1389-90, 123 infants were being provided for under this program.

Wherever possible, however, the participation of private benevolent societies in social service activities and programs in encouraged. The Ministry usually pays a subsidy for the establishment of a new society that is set in light of the programs and services that the society provides. During the last two years, more than 30 organizations applied for registration under this program.

Social security is administered by the Social Security Department through a system of 32 offices distributed throughout the Kingdom. These offices receive and process most of the applications for grants or pensions under the Social Security Law and conduct the necessary investigations to determine the validity of the request for asssistance. Thus, the effectiveness with which the social security program is administered depends to a considerable degree on the size and competence of the staffs in these offices as well as the number of offices in operation.

The Community Development program seeks to coordinate government services with community efforts to maximize the use of local economic and social resources for the improvement of the welfare of the community. The present program of 11 rural and 6 urban centers has operated for several years. These centers have achieved varying degrees of self-efficiency, and in some instances the shifting of a center to a new locale may soon be appropriate. In a move to strengthen the program, an agreement with the United Nations has recently been concluded that provide for the development of the center at Dariyah as a training and applied research facility for community development personnel.

Cooperatives are regulated and supervised by the Ministry of Labor and Social Affairs which also provides financial assistance and support for cooperatives during the organizational phase and the initial years of operation. This movement has expanded to all areas of the Kingdom; at present there are 39 registered cooperatives in operation that serve a variety of needs, from marketing to electrification of community areas.

Youth welfare programs are directed toward athletics and other leisure time activities. The organization of boys' athletic clubs has been encouraged, and the Government provides subsidies to cover some of the equipment costs, salaries of trainers, and medical expense of injured players. The Government also conducts workshops and training programs for referees and game supervisors, and sanctions competitions in athletic events.

Implementation of the programs and activities of the Social Affairs Department of the Ministry calls for trained social service personnel to work in institutions, perform investigative tasks, and to follow up inquiries and requests for social assistance. To meet this personnel requirement, the Department has operated a social services training institute, initially on a part-time basis and since 1386-87 as a full-time training school. There are 98 students presently enrolled in the 3-year program which has graduated 101 students over the past 5 years.

Objectives

The overall objectives of the Development Plan for social affairs are to:

1. Improve and strengthen existing services;
2. Identify and eliminate or reduce deficient areas in existing services wherever possible; and,
3. Stimulate individual and group participation in social affairs programs.

Objectives within the major divisions of social affairs are as follows:

Social Welfare

1. To provide comparable institutional services within all major regions of the Kingdom;
2. To provide probation holding facilities in the three major provinces for juveniles who are charged with offenses;
3. To establish a child care facility in Riyadh;
4. To encourage the establishment of organizations and benevolent societies and to stimulate their participation in social welfare projects;
5. To replace temporary facilities being utilized as institutions with new construction designed for institutional use; and,
6. To undertake a continuing program of staff training and development.

Social Security

1. To provide services for social security provisions to areas not covered under the present system of social security offices;
2. To provide funds for those persons eligible for social security services;
3. To strengthen the administrative and operational staffs in central and subsidiary offices;
4. To establish and maintain vital statistics and information registers in accordance with Article 21 of the Social Security law;
5. To establish a social research office in the Department of Social Security to develop information relating to aid and pension distributions; and,
6. To encourage movement toward a production-oriented program for aid to recipients who can be trained for employment.

Community Development

1. To concentrate on the existing network of community development centers with the objective of improved performance;
2. To examine the existing center locations to determine whether relocations may be in order in view of accomplishments, areas being served, and the response to services by the local population; and,
3. To undertake a continuous program of staff development and training for center and community leaders at the new Dariyah training and research center.

Cooperatives

1. To promote the development of 35 additional cooperatives during the plan period to increase the number of cooperatives to 74 by the end of the Plan; and,
2. To continue the program of support and technical assistance for existing cooperatives.

Youth Welfare

1. To move toward improved coordination of the youth development programs operated by other ministries and government agencies and to investigate areas that represent a potential for integrated programs;
2. To establish a system of athletic and recreation centers;
3. To initiate a summer camp program for youth;
4. To stimulate the development of additional youth clubs; and,
5. To continue the national, regional, and area development of youth activities.

Social Services Training

1. To establish an institute for the training of female social workers; and,
2. To upgrade the level of the existing Social Services Institute.

Proposed Programs

The following programs are designed to achieve the foregoing objectives.

Social Welfare

Social orientation institutions for juveniles have been established in Riyadh and Tayif to serve youth in the central and western regions of the Kingdom. The services of institutions will cover the Eastern Province as it is planned to establish a social orientation institution for juveniles, utilizing appropriate rented facilities in Dammam.

Similarly, provisions for institutional care of the aged and the disabled exist in Riyadh, Mecca, and Medina. The plan provides covering the Eastern Province also as it is planned to establish a social welfare institution in Dammam to meet this need, offering the required services initially in rented facilities.

The social orientation institutions provide educational opportunities, health services, vocational instruction and guidance for juveniles in a comprehensive program of social orientation and rehabilitation; however, many juveniles who have been charged with offenses are often held in common custody with adults while awaiting disposition of their cases. In a move to remedy this situation, the Department plans to establish three juvenile probation homes. Two homes will be opened in 1391-92, one in Riyadh and one in Jiddah, and a third home will be opened in Dammam the following year, (see Fig. 21).

Infant and child care cases have been handled through the use of alternative and foster families which receive payment for their services. The alternative family assumes the care of children whose mothers are physically or mentally disabled or otherwise unable to provide home care; and the foster family takes on the care of foundlings. The Department expects to continue this procedure through the plan period and is allocating funds to meet anticipated requirements; however, child placement with foster families requires time as families that are willing to accept foster children are often not immediately available. Therefore, it is planned to establish a nursery home in Riyadh, using rented quarters, to assure that child care cases can be handled with minimum delay.

The Department is aware of the considerable contribution that benevolent societies can provide through their participation in social service programs. The Department plans to make continued use of these volunteer services and to encourage greater public interest in this work. The Plan anticipates that at least 15 new societies will be established during the plan period and includes provisions for their support under existing regulations.

Nine of the buildings that house existing social institutions are rented villas and lack some of the facilities associated with institutional accomodations. A construction program over the plan period will replace these buildings with new facilities designed for institutional use. The construction program will be phased over the plan period and include replacements for rented building in the following locations:

Jouf	Abha	Buraidah
Tayif	al-Hassa	Jiddah
Riyadh	Dammam	Medina

To provide appropriate services for persons under institutional care, it is planned to expand the technical specialist staff to a level of one social specialist for each 30 persons. At the same time, a program of staff upgrading is to be established, using the courses or modified versions that are provided by the Institute of Public Administration.

The allocations for the above programs are detailed in Table 37.

TABLE 37

FINANCIAL ALLOCATIONS FOR PROPOSED SOCIAL WELFARE PROGRAMS

(SR Millions)

Program	Estimated Costs		
	Recurrent	Project	Total
Social orientation institution, Dammam	1.4	—	1.4
Institution for Social Welfare, Dammam	1.3	—	1.3
Juvenile probation home, Riyadh	1.5	—	1.5
Jevenile probation home, Jiddah	1.5	—	1.5
Juvenile probation home, Dammam	1.1	—	1.1
Child care and nursery home, Riyadh	0.8	—	0.8
Child care subsidies,			
Alternative families	0.1	—	0.1
Foster families	0.1	—	0.1
Benevolent society program	0.2	—	0.2
Building construction program — nine institutions	—	16.0	16.0
Staff development program	1.0	—	1.0
Total	**9.0**	**16.0**	**25.0**

Social Security

Facilities for providing social security services should be expanded by adding 4 new social security offices to the present system of 32 offices. Ten candidate locations are under consideration; however, the final determination of the locations for the new offices will be made after a survey of area needs and the work loads of the existing offices. It is planned to establish the new offices in the last two years of the plan period, opening two offices each year. Additional motor vehicles are be allocated to the existing and new offices to provide for increased field work and case investigations. Concurrently, a public information campaign of press, radio, and television announcements and reports is planned to acquaint people with the provisions of the social security law and the importance of information and procedures concerning eligibility.

With this program of expanded service, some increase in claims for assistance under the social security program is expected over the plan period. A concentrated program of claim investigation is expected to reduce the incidence of duplication in relief assistance and thus make funds from the recurrent allocations available for some of the new claims. It is also proposed to add a chapter on penalties to the social security law to cover cases where claim information has been misrepresented and benefits have been obtained illegally. The Plan looks to satisfying the remaining additional claims expected over the plan period with an additional allocation of SR 30 million.

A number of technical personnel additions are planned to strengthen the operational and administrative staff. Some 32 posts for social workers are to be added, with distribution over the plan period to the social security offices. Another 32 posts for statistical clerks will place one clerk in each of the existing offices. Training courses are planned on a continuing basis to upgrade and to update employees on social security procedures. This training will be conducted at the main social security offices in Riyadh, Dammam, and Jiddah, with students from branch offices attending on a rotating basis. A central training program will also be presented for employees in key positions, either at the Social Services Institute or the Institute of Public Administration in Riyadh.

The Plan calls for setting up information registers, as called for in Article 21 of the Social Security Law, at the Department of Social Security and at the main social security offices of the Central, Western, and Eastern provinces. These registers will include data on cases sponsored by government and private institutions and will permit the interchange of information to avoid duplication of benefit payments.

The proposed social research office in the Department of Social Security will sponsor surveys and research programs to develop information that can be used in the implementation of the social security program. The studies would include such subjects as regional variations in living costs and standards, mobility of social security beneficiaries, characteristics of aid claimants, and the like.

SOCIAL INSTITUTIONS

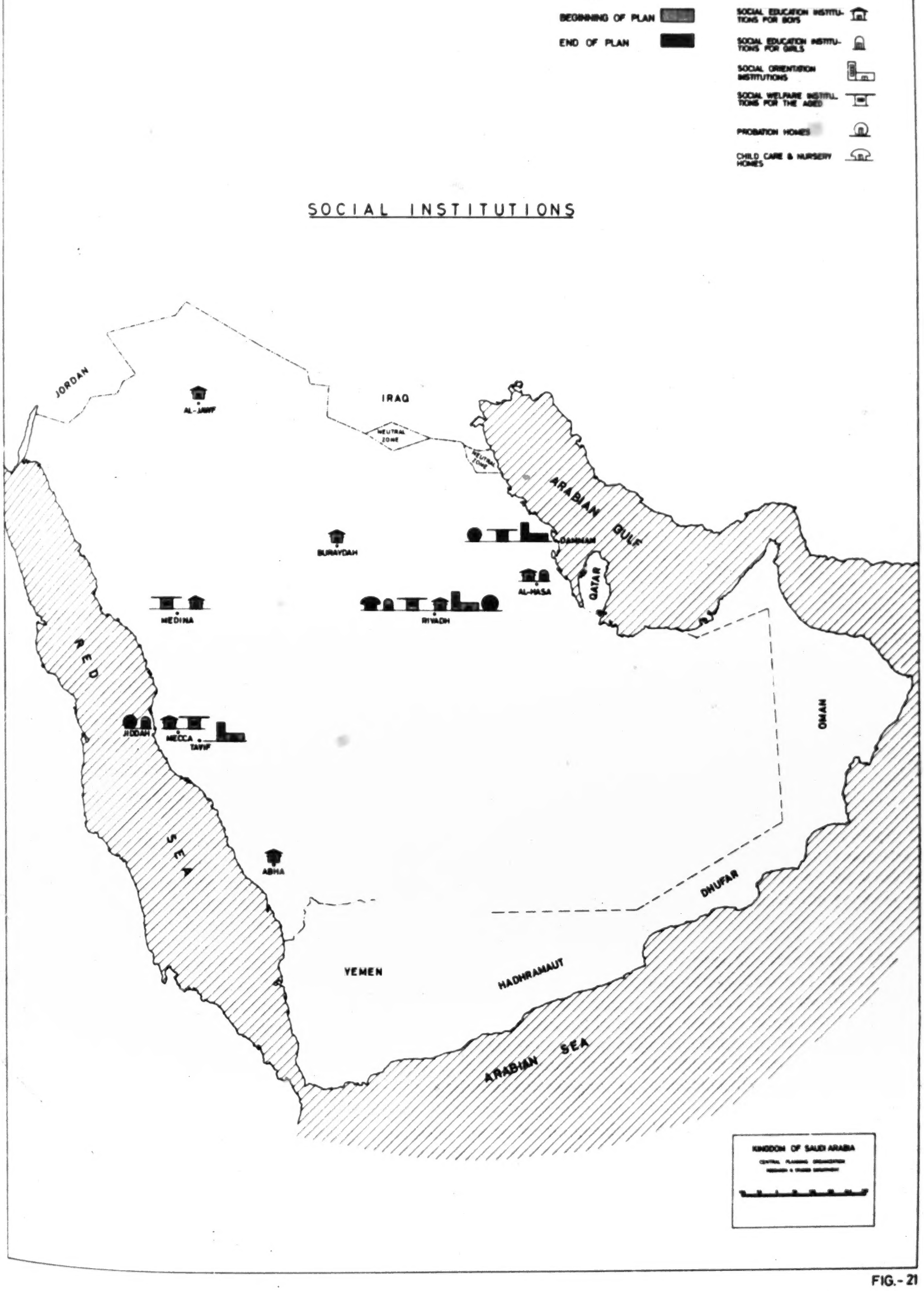


FIG.- 21

All social security offices are to work toward the economic rehabilitation of individuals receiving social security benefits who, with assistance, could become self-supporting. Attention will be given to establishing individual or collective projects that represent an employment potential with reasonable income. This project also includes provisions for prosthetic devices for those disabled persons who could become employable with this assistance.

The allocations for the above programs are shown in Table 38.

TABLE 38

FINANCIAL ALLOCATIONS FOR PROPOSED SOCIAL SECURITY PROGRAMS

(SR Millions)

Program	Estimated Costs		
	Recurrent	Project	Total
Additional social security offices	4.7	—	4.7
Motor vehicles	0.8	—	0.8
Public information program	(a)	—	(a)
Additions to the pensions	30.0	—	30.0
Personnel augmentation	1.9	—	1.9
Training programs	0.2	—	0.2
Information exchange registers	0.1	—	0.1
Social research office	0.6	—	0.6
Production project programs for social security claimants	2.1	—	2.1
Total	**40.4**	—	**40.4**

(a) *Less than SR 50,000*

Community Development

No expansion of the existing system of community development centers is contemplated during the plan period; however, consideration will be given to possible transfer of center activities from existing locations to new locations. Details of this program are discussed below.

The programs proposed for community development focus on three general areas:

1. Improved administration;
2. Development of technical proficiency; and,
3. Development and expansion of activities within the system of community development centers.

To aid in the improvement of program administration, it is planned to establish the Central Development Committee as a board of directors for the community development program, with membership at the deputy minister level from concerned ministries and the Central Planning Organization. This committee is to be supported by the work of the Regional Development Committees and units or sections within each ministry that participates in the projects of the community development center program.

A continuing program of training is planned to provide for the up-grading of present community center staff, with courses ranging from one to six months' duration. Candidate students include center directors, social, cultural, and agricultural specialists, and supervisors in various health fields. In addition, an annual program of seminars or conferences on center activities is planned to bring together staff personnel in specific fields of work for the interchange of information, experience, problem areas and solutions. In this program of staff development attention will also be directed to the possible introduction of academic programs in social work or related subjects at the University of Riyadh and the proposed women's college that would provide graduates for assignment in community development programs.

Within the centers, several programs of expansion are to be undertaken. These will include additional library services, increased schedules of home visits by social and health specialists, installation of pilot plots and nurseries for agricultural development programs, expanded literacy classes for adults, development of additional educational opportunities for girls and women, and extension of the preventive health program. In some cases, the introduction of new programs or the expansion of on-going activities will be preceded by preliminary studies or investigations and public

information campaigns. An annual program of fairs, in which the achievements of the center activities would be publicized and the products would be displayed and marketed, is to begin in 1392-93 with a fair in Jiddah. Subsequent fairs are planned for Riyadh, Dammam and other regional centers.

Throughout the plan period, attention will be directed toward the possible relocation of some of the existing centers. A technical committee will investigate the comparative benefits of continued center operations in communities where other development programs are underway versus operations in new locatlities. Five existing centers have been identified as possible candidates for relocation; however, the replacement locations have not been established since the work of the technical committee has yet to be developed.

A summary of the costs projected for the above programs is shown in Table 39.

TABLE 39

FINANCIAL ALLOCATIONS FOR PROPOSED COMMUNITY DEVELOPMENT PROGRAMS

(SR Millions)

Program	Estimated Costs		
	Recurrent	Project	Total
Community Development Committee	0.1	—	0.1
Motor vehicles	0.4	—	0.4
Training programs, seminars, and conferences	0.2	—	0.2
Personnel augmentation	0.3	—	0.3
Center studies, public information programs, and fairs	0.1	—	0.1
Total	**1.1**	**—**	**1.1**

Cooperatives

The program for expansion of the cooperative societies looks to the registration of 35 new multipurpose cooperative societies during the plan period as follows:

Type of Cooperative	Number to Be Added
Wholesale agricultural marketing	6
Agricultural	6
Services and electricity	5
Consumer	7
Vocational	4
Housing	3
Women's handicraft	4
Total	**35**

This program carries with it the requirement to provide certain subsidies in accordance with the laws that govern the establishment, operation, and control of cooperatives. Each of the new cooperatives will receive a one-time establishment subsidy of up to 50 percent of the capital of the society, with the average amount of the subsidy estimated at SR 3,000. In addition, each society will receive a monthly accounting subsidy for the first five years of operation, with average payment estimated at SR 800 per month. Finally, each society, old and new, will receive an annual social subsidy to cover funds expended by the society on social services; the average projected for the plan period is SR 1,000 a year for each society.

A schedule of annual conferences is planned for cooperative society members and staff personnel as a forum for the interchange of experience in problems, solutions, cooperative services, and general administration of cooperative programs.

Training programs in addition to the above conferences are to be established for both initial and follow-up courses, beginning with one course of three months and a follow-up course of two months in alternate years. These courses will be presented to directors, board members, and administrative personnel of the societies. In addition, arrangements are planned to provide training courses at the Institute of Public Administration for officers with responsibility in the administration of the cooperative program. It is proposed to establish a training and educational unit within the Co-operative Administration to administer this continuing program of education and training for staff and cooperative members.

This expansion in the activity of the cooperative program will call for additional staff, estimated at 34 technical officers and 8 non-technical officers over the period of the Plan. The cost projections for the programs described above are shown in Table 40.

TABLE 40

FINANCIAL ALLOCATIONS FOR PROPOSED COOPERATIVE PROGRAMS

(SR Millions)

Program	Estimated Costs		
	Recurrent	Project	Total
Expansion of cooperatives, 35 additional societies (subsidies)	1.2	—	1.2
Conferences	0.1	—	0.1
Training programs	0.1	—	0.1
Training unit	1.2	—	1.2
Staff augmentation	1.5	—	1.5
Motor vehicles	0.2	—	0.2
Motor vehicle expense	0.3	—	0.3
Total	4.6	—	4.6

Youth Welfare

The Plan looks to the construction of five youth welfare centers in the Kingdom. These centers consist of the fields and other installations for games, organized sports, cultural, and social activities for use in the community. The centers have been designed on the module principle, with smaller centers retaining the basic installations that will permit expansion in the future as dictated by requirements. The plan calls for two large "A-Category" centers to be established in Jiddah and Dammam. The remaining three centers are planned as "C-Category" installations, with the potential for later expansion to Category B or Category A facilities. The sites for these three centers have not been selected as yet; however, candidate areas under consideration include Mecca, Medina, Tayif, Qatif, and Qasim. (See Fig. 22).

The present budget of the Department of Youth Welfare includes allocations to support a variety of programs for the development of youth activities. These programs include the provision of athletic equipment, training courses for athletic officials and participants, camps, sports competitions, and the use of information media—radio, television, and press— to stimulate interest in youth welfare activities. These allocations are to be continued, with distributions for both existing and new programs within the above general classifications.

Among the new programs to be established under this system will be the program of summer camps, where approximately 100 boys will participate in a 15- to 30-day organized period of outdoor activities. Another type of summer camp, which is directed toward youth participation in development projects, is planned, with four camps to be established during the plan period. This funding will also be applied to training programs for athletic directors and referees and other support programs.

The encouragement of club programs and activities has included support payments from the Government. An additional allocation for this purpose has been proposed within the limits of previous funding to include construction subsidies for club projects of a capital nature, such as improvement of playing fields, installation of playground equipment, and other similar projects. These payments will be made on a matching basis, with the government contributing accounting for no more than half of the total cost of the improvements.

The youth development program will extend to include other activities abroad such as participation in international programs—conferences, meetings, and competitions —that will be increasing over the plan period. A program of youth trips and interchange of young persons from the Arab and Islamic countries is to be carried out during the plan period, with a minimum of two internal and two external trips planned each year.

The foregoing discussion covers some, but not all, of the various services and programs anticipated during the plan period under the youth development program. While staff additions will be required, the precise number of additional posts will depend on the level of training and the flexibility of the personnel who will take up the new assignments. Additional allocations are proposed for personnel augmentation, phased over the plan period to cover needs as they develop. A summary of the additional costs projected for the new programs is shown in Table 41.

TABLE 41

FINANCIAL ALLOCATIONS FOR PROPOSED YOUTH DEVELOPMENT PROGRAMS

(SR Millions)

Program	Estimated Costs		
	Recurrent	Project	Total
A-Category Youth Welfare centers in Jiddah and Dammam	—	20.4	20.4
Youth Welfare Centers (3 C-Category centers)	—	10.5	10.5
Supporting present items for activities	1.0	—	1.0
Staff augmentation	4.5	—	4.5
Total	5.5	30.9	36.4

Social Services Training

The Department of Social Affairs has operated the Social Services Institute as a training facility to prepare social workers for assignments in the various government programs.

It is planned to reorganize the instructional program to raise entrance requirements from completion of an intermediate-level school program to completion of a secondary-level school program. This move is directed toward improving the standards of the institute by enrolling students who are older and who have a more comprehensive academic background. It is also planned to remodel the present institute to increase class capacity and to provide resident quarters for the students. These plans look to opening the new institute with an intake of 50 students in 1391-92; the school capacity has been planned at 150 students.

It is also planned to establish an institute for the training of female social workers. Initially, this institute will utilize the facilities of the social education institution for girls, taking students from the group of girls who have completed their intermediate-level studies. A three-year training program is projected and the first class is expected to take 15 girls for this course.

The costs of the above training programs are shown in Table 42.

TABLE 42

FINANCIAL ALLOCATIONS FOR PROPOSED SOCIAL SERVICES TRAINING PROGRAMS

(SR Millions)

Program	Estimated Costs		Total
	Recurrent	Project	
Social Services Institute upgrading	5.1	1.0	6.1
Social Services Institute for Girls	1.6	—	1.6
Total	6.7	1.0	7.7

YOUTH WELFARE CENTERS

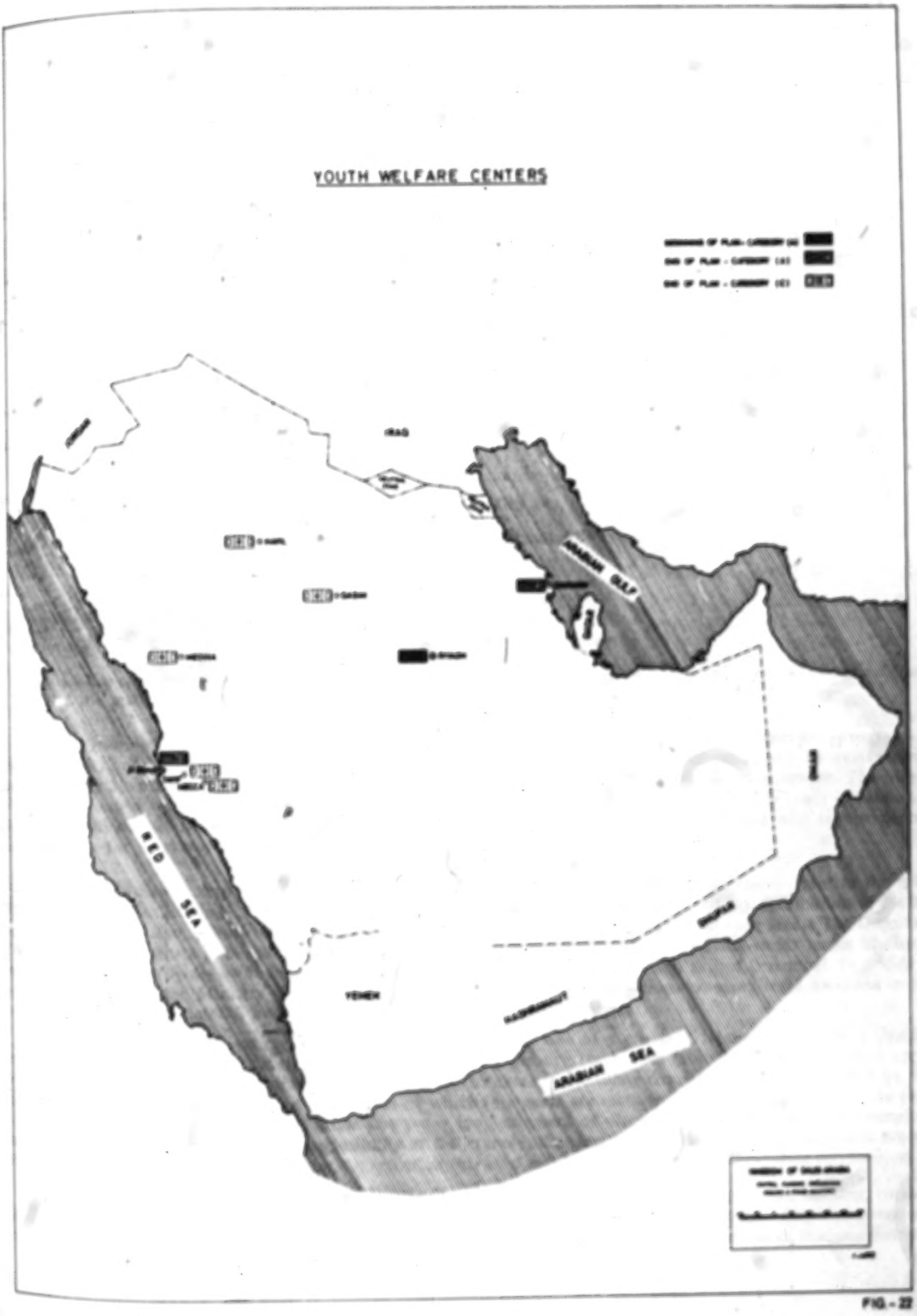


FIG. - 22

Financial Allocations

The financial allocations for the programs included in the plan for social affairs are shown in Table 43.

TABLE 43

FINANCIAL ALLOCATIONS FOR SOCIAL AFFAIRS

(SR Millions)

Program	Recurrent	Project	Total
Existing Programs	331.5	6.2	337.7
Proposed Programs			
Social Welfare	9.0	16.0	25.0
Social Security	40.4	—	40.4
Community Development	1.1	—	1.1
Cooperatives	4.6	—	4.6
Youth Welfare	5.5	30.9	36.4
Social Services Institutes	6.7	1.0	7.7
Proposed Programs Total	67.2	47.9	115.1
Total, Existing and Proposed	**398.8**	**54.1**	**452.9**

LABOR AFFAIRS

The labor affairs program of the Ministry of Labor and Social Affairs covers the following general areas:

1. Labor law;
2. Labor information;
3. Labor services; and,
4. Labor training.

The labor training interest, represented by the vocational training program of the Ministry of Labor, is discussed in detail in the section of this Plan that treats education and training programs.

The following discussion covers the three remaining areas—labor law, information, and services. Programs and activities for each of these areas are either specified by, or implicit in, the provisions of the labor law and the social insurance law. Both laws have been replaced by two new and expanded regulations for labor and social insurance. The Ministry of Labor is charged with putting into force the various provisions of the new laws. These include labor inspection, the application and enforcement of labor organization codes, settlement of labor cases, compliance with requirements for social services for workers, and safety regulations.

Labor information responsibilities include conducting periodic statistical surveys of employment in the private sector to provide data on wages, occupations, skills, educational levels, job experience, and age distribution of the labor force. Labor offices also submit regular reports on employment and the labor market in their areas. The Department of Research and Statistics publishes an annual bulletin on foreigners working in the private sector under Ministry of Labor permits that provides an indication of trends in the demand for technical and skilled personnel. In addition to these statistical data, the Ministry prepares and distributes reports and publications covering legal decisions in labor issues and explanatory material and instructions in other labor affairs matters.

Although discussed separately, labor information is actually one of a group of labor services and a significant element of employment service. Employment service is handled through the branch labor offices which receive applications for work and seek to refer applicants to employers. In cases where labor requirements cannot be met by Saudi personnel, the Ministry has established procedures by which foreigners are recruited for critical positions in the private sector. Another of the most important labor services is the settlement of disputes between employer and employee. The new labor law has placed initial responsibility at the branch office level where first-instance committees are to be established to hear cases. Disputes that are not settled at this level will be refered to a high committee for decision.

Social services for workers include, but are not limited to, medical care, safety precautions, housing, recreation facilities, transportation, meal service, retail purchase arrangements, and a savings system. Employer responsibilities in these matters are set forth in the new labor law which also provides for penalties in cases of non-compliance.

As a public information service, the Ministry has made wide use of radio broadcasting to direct public attention to various aspects of employment, industrial safety, and improved attitudes toward the work situation.

Objectives

The general objectives of the Development Plan for labor affairs are to:

1. Implement provisions of the new labor law and the social insurance law;
2. Broaden the scope of the labor information system; and,
3. Improve and expand the employment services system.

Specific objectives and targets of the Development Plan are to:

1. Establish a general department for labor inspection with branch inspection units at labor offices;
2. Establish 16 first-instance committees at the branch labor offices during the plan period to act on labor disputes;
3. Expand the system of branch labor offices from the present 21 offices to 29 offices by the end of the Plan;
4. Establish a system of employment service offices;
5. Expand the scope of statistical surveys of the labor force and the employment levels within the Kingdom;
6. Review all by-laws, labor organization programs, and savings system programs to be submitted for approval by establishments in accordance with provisions of the labor law;
7. Initiate training programs for field and office staff personnel of the Agency of Labor Affairs;
8. Extend the use of information and demonstration programs covering various aspects of the labor situation; and,
9. Replace rented office facilities of marginal utility with government-owned buildings through a phased construction program that will provide six buildings by the end of the Plan.

Proposed Programs

The following programs are designed to achieve the foregoing general and specific objectives.

Labor Inspection

The new labor law sets forth specific requirements for a labor inspection program. This program includes continuous supervision by an inspectorate to assure that employers are properly executing the provisions of the labor law. Particular attention is directed to employment terms, conditions of employment, wages, health and safety, and protection of employed juveniles. The inspectorate is to assist employers in reaching solutions that satisfy the requirements of the labor law. When differences between employers and the inspectorate cannot be resolved, the inspectorate is to refer details to the appropriate authorities for action.

To meet these responsibilities, the Ministry plans to establish a department that will be concerned with labor inspection and the development of social services as provided in the new law. The department will consist of three divisions:

1. Labor Inspection Division;
2. Social Welfare Division; and,
3. Labor Guidance Division.

The Labor Inspection Division is to be staffed to handle field work through inspection units in various cities or areas. The Social Welfare Division will prepare plans for the initiation of the various social welfare and services programs called for in the new labor law. The Labor Guidance Division will be concerned with information and demonstration programs that will be presented to acquaint and familiarise employers and employees, as well as the general public, with the provisions and interpretations of the labor law and the labor situation.

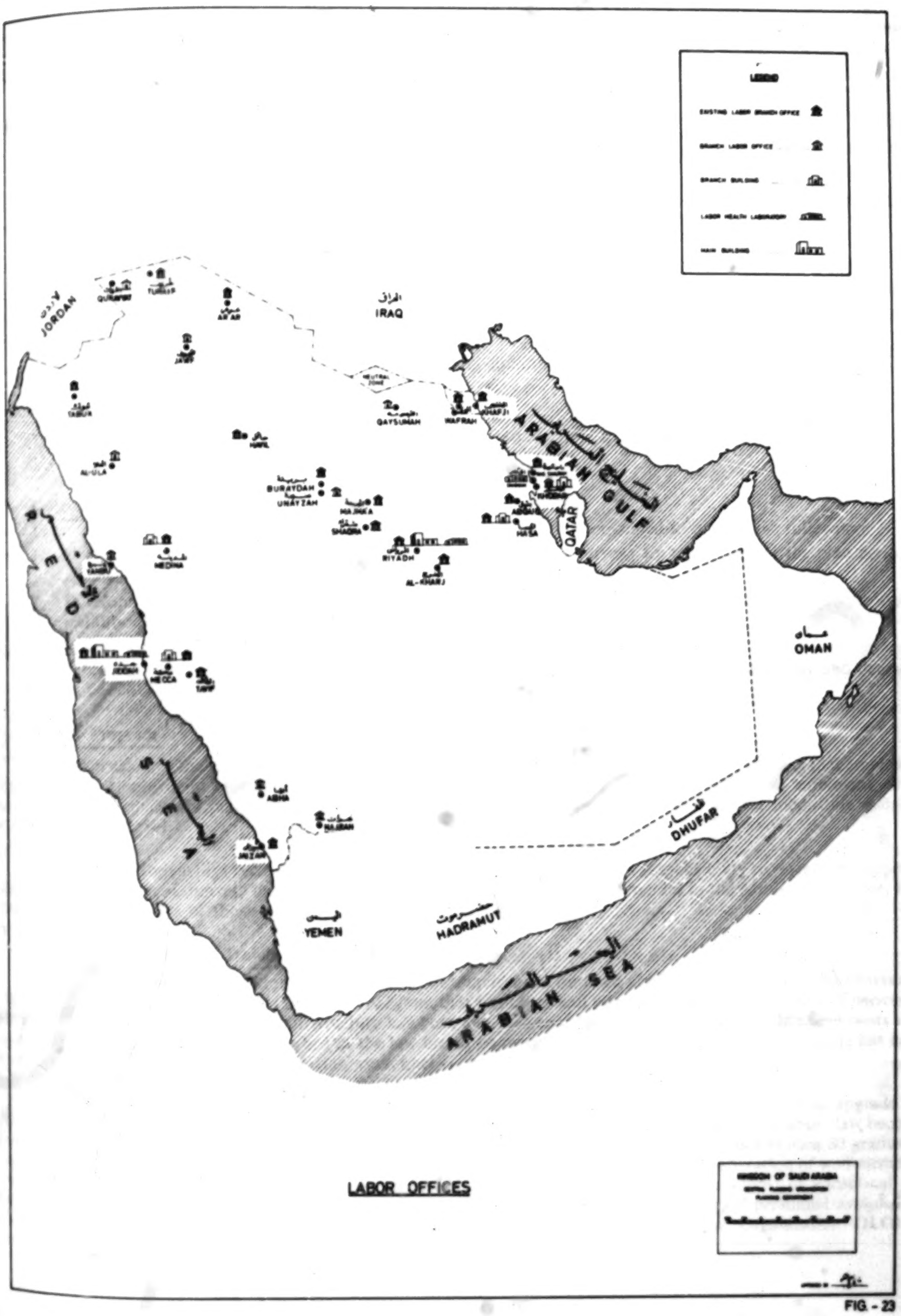
First-Instance Committee Program

An important provision of the new labor law introduces the first-instance committee system to the handling of labor disputes. Article 173 of the law states that a first-instance committee shall be constituted for every main or branch labor office, and Article 177 calls on the Minister of Labor to establish a supporting bureau of staff personnel for each committee.

During the plan period, the Ministry plans to organize 16 first-instance committees with the necessary supporting staffs. The allocation of these committees is to be determined on the basis of such factors as scope of labor activity, anticipated economic development, and employment levels in the area. Each committee will have three members; the chairman and at least one other member is required to be a graduate of Sharia' College. Each committee will be supported by a cadre staff of from four to seven persons, depending on the location and assignment of the committee.

Branch Labor Office Expansion (See Fig. 23)

At present, 21 branch labor offices provide services to workers and employers at locations throughout the Kingdom



LABOR OFFICES

FIG. - 23

During recent years, a number of locatlities experienced considerable economic, industrial, and urban development with attendant requirements for labor office services; to meet these needs, it is planned to open eight additional labor offices during the plan period. Locations are as follows:

Yanbu'	Jauf
Abha	Qaysumah
Qurayat	Najran
Unaizah	al-Ula

Priority in the schedule of office openings is to be given to the Yanbu-Abha-Qurayat-Unaizah group, and all efforts will be made to open these four offices in one year.

Employment Offices

The branch labor offices will provide employment services to workers and employers. To improve these services, it is planned to establish employment offices or units as elements of the labor office system. These offices are to perform the following functions:

1. Registration of work applicants, to include recording all information regarding qualifications and experience;
2. Analysis of employment opportunity information;
3. Referral of applicants to potential employers;
4. Guidance and information regarding training or re-training opportunities for workers; and,
5. Assistance in job transfers.

Statistical Surveys and Research

The current program of statistical surveys and labor research is to be expanded to include the following:

1. Statistical survey of employees in private establishments: three surveys are scheduled for the plan period;
2. Annual survey of foreign workers recruited for employment in the private sector;
3. Development of a uniform system of job classification and specification for application in private sector institutions;
4. Sample survey of the labor force, scheduled for the final year of the plan period; and,
5. Special surveys and studies covering internal migration, seasonal fluctuations in labor supply and demand, and society's attitude toward manual and industrial work.

Review Program

Implementation of the new labor law carries with it a requirement to review the various provisions that employers propose in their employment conditions to assure that they meet the labor code. All establishments employing 20 or more workers are concerned, and recent surveys estimate that al least 300 establishments will be submitting material for review and approval.

Concurrently, the savings system requirement of the labor law also places the responsibility to review and approve codes submitted by establishments that are expected to participate in the saving program in the Ministry of Labor. It is expected that the number of those establishments will exceed 100.

Staff Development and Training

The variety of tasks and functions, such as the review requirement outlined above, that arise out of the provisions of the new labor law can be carried out through a program that combines staff augmentation with a schedule of personnel training and upgrading. The existing staff structure has been analyzed to determine the number of additional posts that are essential if the responsibilities prescribed in the law are to be met. A total of 45 additional in-cadre posts has been set as the augmentation requirement for staff personnel.

A number of training programs are proposed to prepare staff personnel for new assignments or to upgrade assigned personnel who will assume broader responsibilities in their positions as the requirements of the labor law become effective. One training program is planned for labor inspectors and controllers, designed to produce at least 80 graduates in increments of classes of 20 with each class set for three months. Another program looks to preparation of staff members of the Statistics and Research Department in techniques of information analysis for the programs of vocational job classification. A training program has also been planned for the orientation and upgrading of personnel assigned to employment offices. Negotiations have already been initiated with the International Labor Organization (ILO) to provide expert assistance for these training programs.

Labor Guidance Programs

The establishment of a labor guidance division as an element of the new department concerned with labor inspection and social services has already been noted in this discussion of proposed programs. Within this division, the programs directed toward labor guidance cover a wide range of efforts to provide some basic information. A weekly radio broadcast from Riyadh and Jiddah is planned; this represents a continuation of earlier use of this media for public information programs on labor matters. A similar effort is planned for television, utilizing locally produced material and appropriate films. An intensive program of outdoor display boards is contemplated for campaigns on worker safety and other applicable subjects, complemented by supporting posters for inside use. The Ministry also plans to publish bulletins and periodicals with coverage on particular sections of the labor code, and to reinforce this program with seminars and discussions in various locations.

Building Construction

The phased plan for replacement of rental facilities with government-owned buildings looks to construction of two main labor office buildings and four branch labor office buildings during the plan period. Main labor office buildings are scheduled for Riyadh and Jiddah, while branch labor office buildings are proposed for construction in Mecca, Medina, al-Hassa, and Khobar.

Financial Allocations

The financial allocations for the above programs are shown in Table 44.

TABLE 44

FINANCIAL ALLOCATIONS FOR LABOR AFFAIRS

(SR Millions)

Program	Recurrent	Project	Total
Existing Programs	63.1	—	63.1
Proposed Programs			
Labor inspection department and its related units	9.8	0.8	10.6
First-instance committee	4.2	0.3	4.5
New branch labor offices	3.1	0.3	3.4
Employment units and offices	2.5	0.1	2.6
Staff augmentation, training and upgrading	4.1	0.2	4.3
Equipment replacement	—	1.2	1.2
Building construction	0.1	7.9	8.0
Proposed Programs, Total	**23.8**	**10.8**	**34.6**
Total, Existing and Proposed	**86.9**	**10.8**	**97.7**

HOUSING

At present, direct government participation in housing development has two aspects: the first is manifested in the formulation of policies for the development of this sector through the Department of Housing within the Ministry of Finance and National Economy; and the second in the form of limited financial assistance to government personnel for the construction of their own houses. Indirect government support is provided through programs for urban development and public utilities.

Objective and Targets

The general objective of the plan for the housing sector is summarized as the improvement of housing conditions where these fall below required social and health standards; and in particular raising the standards of housing of the lower income groups so that improvement in housing will go hand-in-hand with the Government's efforts for the improvement of health services, water supplies, and urban development throughout the Kingdom.

To achieve this objective it will be necessary to undertake a comprehensive housing survey for the Kingdom in cooperation with the Central Statistical Department. Subject to the conclusions of this survey, the following targets are set:

1. Establishment, during the second year of the Plan, of an institution to finance housing and real estate development projects;
2. Design, in the second year of the Plan, of model residential communities; and,
3. Implementation, in the third of the Plan, of a comprehensive program for the development of the housing sector integrated with plans for urban development.

Programs and Projects

Housing Survey

The proposed housing survey will be designed to determine existing housing conditions throughout the Kingdom and to obtain data on existing methods of construction, materials, construction costs, and ways of financing housing construction. Thus this survey would provide the bases for:

1. Forecasting the requirements of different income groups for improved housing;
2. Assessing how much each group would be able and willing to pay for improved housing; and,
3. Formulating policies and programs tailored to both the needs and the financial capacity of different income groups.

The survey will also determine:

1. The means by which the private sector should be encouraged to undertake real estate development and housing construction in accordance with the programs proposed;
2. The extent to which national manpower and materials can be used in site development and housing construction;
3. How private sector savings can be mobilized to finance real estate and housing construction;
4. How the volume of housing construction can be regulated to offset cyclical movements in economic activity; and,
5. How housing development should be coordinated with town planning.

Housing Finance Institution

The Plan intends to finance housing and real estate development by mobilizing private savings and other forms of private sector financing. A housing and real estate finance institution will be established for this ;

Model Residential Communities

It is proposed to design and construct model residential communities in selected locations. These projects will provide the basis for determining the costs of site development and construction for new housing. They will also demonstrate the standards and characteristics of residential communities that meet local social requirements and conform with the local physical environment, availability of building skills and materials, and the financial capacity of prospective occupants.

Financial Allocations

Thirty million Saudi riyals are allocated for the execution of the programs described above and SR 0.5 million for the continuation of existing programs for housing during the first year of the Plan.

CHAPTER VII

PUBLIC UTILITIES AND URBAN DEVELOPMENT

Adequate public utility services are necessary for the development of other sectors of the economy. These services include electric power, nonagricultural water supplies, sewage and waste disposal; and municipal services such as street improvement, storm water protection and drainage, and provisions of markets, cemeteries and slaughterhouses.

The public utilities sector has been expanding at an annual rate of 14.2 percent during the past five years as measured by its contribution to gross domestic product. The rapid expansion of this sector is expected to continue at an average annual rate of 13.2 percent during the period of the Plan.

Many of the problems facing the electric utilities that serve the urban areas (such as voltage irregularities, service interruptions and inability to provide service) will be overcome by the end of the Plan, and all reasonably accessible towns of more than 2,000 people are expected to be electrified by private firms with governmental financial assistance during the same period.

High priority will be given to providing urban areas with water and sewage systems. The major cities will have these systems by the end of the Plan. Towns and villages will also be provided with adequate water supplies during the Plan; the urban areas will be protected against flooding by storm water, and additional facilities will be provided for other municipalities.

General strengthening of the organizations involved will take place in the next few years. In addition, efforts will be made, in particular, to improve revenue collections from users of services where user charges are appropriate. Training will emphasized at most levels of operations.

ELECTRICITY

The electrical industry has experienced many problems in the effort to provide electrical service to the rapidly expanding economy. Interruptions of service, voltage fluctuations, inability to provide timely service, and the lack of standards in the assessment of connection charges have been commonplace in the urban areas of the Kingdom.

There has been little organized effort to develop a community electrification program for the rural areas although several ministries, as well as numerous private individuals and firms, have electrified many communities within the Kingdom. Since most of these systems have been installed without guidance or supervision, many are inadequate and need expansion or replacement.

All of these problems represent losses to the economy, either directly or indirectly. Although much progress has been made in correcting them, much remains to be done. This will require an organized and cooperative effort by affected organizations in the public and private sectors.

Objectives

The objectives of the electrical development program are to:

1. Meet the electric power requirements of the industrial sector at rate levels which do not inhibit growth;
2. Meet the demands of other consumers at lower rates than exist at present;
3. Generally improve and standardize existing services through institutional and technical changes. These will require:
   a. The establishment of a regulatory body for electrical services;
   b. Improvements in service to discourage installation of generation plants by private organizations; and,
   c. Increases in plant utilization of the utilities by application of appropriate rate structures and other methods.
4. Encourage small scale industrial and economic growth and provide better living conditions through a phased rural electrification program.

Specific targets are to:

1. Attain service standards and rate levels so as to minimize installation of isolated generating plants within franchised areas of major utilities by the end of the plan period.

2. Electrify most communities with a population over 2,000 by the end of the plan period.
3. Initiate institutional improvements which will include the establishment of a regulatory body early in the program period to replace the Power Section in the Ministry of Commerce and Industry. This body, when established, will take over the responsibility to supervise electric facilities currently administered by other ministries and companies that render services to the public. The body will issue a standardized system for accounting, make cost studies, design and prepare a basis for electricity rates for adoption by private companies.
4. Standardize the electric voltage and frequency by the end of the period.

Programs

Urban Electric Companies

Rapid expansion of the companies serving the areas of Jiddah, Mecca, Tayif, Medina, Riyadh, al-Hasa and Dammam/al-Khobar will continue. Generation is expected to total 1,500 million kilowatt hours at the end of the Plan.

Production of this amount of electricity will require increasing the existing capacity by 1.6 times during the plan period. This, together with auxiliary distribution and transmission equipment, will require an investment of about SR 400 million.

The generation necessary for the large scale industries proposed by Petromin, and perhaps others in the private sector, is not included in the above estimates. Although it is in general an uneconomic use of the Kingdom's resources for an organization to generate its own power when central power station service is available, the government will not, by decree, require these organizations to take power from the available utility. Instead, it will serve as a coordinating agent and let each case be determined based upon comparative costs.

Several isolated generating plants now exist: It is anticipated that by the time for replacement of these, the rates and service standards of the urban utilities will be such that it will be to the clear advantage of these organizations to buy power from the utility.

Rural Community Electrification

The rural community electrification program for rural areas will be undertaken in accordance with the Council of Ministers Decision No. 826, dated 10.5.1388. This decree assigns responsibility for this program to the Ministry of Commerce and Industry and stipulates that there should be:

1. Maximum possible use of private capital to initiate rural electrification projects;
2. Maximum possible development of local management responsibility;
3. Utilization of Government funds to supplement private capital in amounts not to exceed 75 percent of total capital costs; and,
4. Ultimate repayment of funds.

The program outlined for the period proposes to electrify most reasonably accessible towns of 2,000 population or more. It includes 80 towns identified by name and administrative region as having sufficient population to merit electric service (see Fig. 24). Electrification of these communities is scheduled in five successive stages.

In the cases of ar-Ruq'i, al-Humatiyat, az-Zarqani, and Halit Ammar, the Ministry of Finance and National Economy will meet the total costs of all four projects. These are border communities at main entrances to the Kingdom where significant population growth is expected.

The priority for electrification of each town is based on its importance, considering such factors as population, economic significance, and the location of governmental establishments. These priorities are intended as guides to determine costs, but are flexible and can be altered as conditions warrant.

In developing financial requirements, it has been predicted that 25 percent of the cost burden will be assumed locally and the remainder borne by governmental fifteen-year, interest-free loans. Repayment will probably not be possible until at least three years after operations begin. With allowance for administrative arrangements and construction, repayment is not assumed until after the Plan.

The estimated cost of executing the entire project is SR 93 million, of which SR 23 million is expected to be raised privately as share capital and the remainder is to be provided as long term government loans. The costs and the proposed

RURAL ELECTRIFICATION PROGRAM

FIG.-24

schedule of towns include communities for which electric systems are proposed by the Ministry of the Interior (Municipal Affairs), and the Ministry of Finance and National Economy.

The Ministry of Commerce and Industry will offer general technical assistance, supervision of construction, and supervision of operations. It will also engage in certain training activities.

Electrical Service Organization

An ordinance for the establishment of a financially independent Electric Service Organization has been forwarded to the High Committee for Administrative Reform. The ordinance proposes giving this body the responsibility for the review and supervision of certain activities of both the governmental and privately owned electric utilities of the Kingdom. Such a body has generally been found necessary for electric utilities. Functions proposed include:

1. The issuance of rules and regulations which define in detail the relationship of the companies to their customers;
2. Issuance of an electric wiring code and safety standards;
3. Performance of electric rate studies;
4. Coordination of the rural electrification program;
5. Coordination and supervision of the program to make voltage and frequency uniform throughout the Kingdom; and,
6. Implementation of other improvements in company operation.

Standardization of Voltage and Frequency

By the order of the Council of Ministers, the service voltage and frequency will be standardized throughout the Kingdom by the end of 1395 at 220/380 volts and 50 cycles. The cost of converting generation and distribution equipment will be borne by the electric companies involved.

Consumers who are affected by this change in service will have to replace and modify some of their electrical equipment. An extensive survey of all customers who will be affected by the conversion will be performed by the Ministry of Commerce and Industry. This Ministry will also be responsible for determining the best methods for conversion, both technically and economically.

Financial Allocations

The total allocations required for the execution of the electrical program will be SR 99 million. Of this total, SR 89 million will be within Ministry of Commerce and Industry budget and the remainder will be in the budget of the Ministry of Finance and National Economy, as shown in Table 45.

TABLE 45

FINANCIAL ALLOCATIONS FOR ELECTRICITY

(SR Millions)

	Recurrent	Project	Total
Directorate General of Industry & Electricity			
Existing Programs	0.9	—	0.9
General Consulting Services	—	9.0	9.0
Electric Service Organization	10.5	—	10.5
Building Improvement and Extension	—	1.5	1.5
Rural Electrification Program	—	66.7	66.7
Directorate General of Industry and Electricity - Subtotal	**11.4**	**77.2**	**88.6**
Ministry of Finance and National Economy			
Subsidies to Electric Companies	6.6	—	6.6
Electric Projects	—	3.8	3.8
Ministry of Finance and National Economy - Subtotal	**6.6**	**3.8**	**10.4**
Total — Electrical Program	**18.0**	**81.0**	**99.0**

URBAN AND COMMUNITY WATER PROGRAM

The urban and the community water program has been given high priority in the development program, and major construction projects to supply adequate quantities of potable water to consumers have been initiated in the principal urban centers. At the same time, sources of water have been developed and distribution networks constructed for many of the communities in the Kingdom.

In cases where conventional sources of water were inadequate and sea water was available, water desalination plants have been constructed to provide the necessary water: water desalination plants are operating at Jiddah, Duba and al-Wajh. Equipment has been ordered for a plant at al-Khobar.

The general responsibilities for the development of water resources and the construction of delivery systems lie with the Ministry of Agriculture and Water, but the responsibility for distributing water to consumers lies with the Ministry of Interior for Municipal Affairs. There are certain exceptions to this division of responsibilities: the Ministry of Interior, for example, has developed water resources for the Eastern Province and is providing distribution networks for a few of the larger cities. Jiddah is another exception. The Ministry of Agriculture and Water has developed some of the production facilities as well as the delivery systems to Jiddah and the Aziziah Water Company distributes the water to consumers.

Objectives and Targets

The objectives of the urban and community water program are to:

1. Determine potential water resources for non-agricultural use and develop them as required;
2. Deliver water from sources to consumers; and,
3. Establish the necessary administrative framework to provide water during the coming years to the largest extent possible from self-generated financial resources.

Specifically, the targets of the urban and community water program are to:

1. Complete the delivery and distribution systems in the city of Riyadh and the delivery system in Jiddah;
2. Develop or repair 550 wells for communities by the end of the plan period;
3. Complete or expand distribution systems for 162 communities during the plan period;
4. Complete the water desalination facility at al-Khobar and construct plants for 20 other communities in the Kingdom.

Programs

Urban Water Systems

The Ministry of Agriculture and Water will complete the existing projects at Riyadh and Jiddah. Projects, or expansion of existing projects, to be undertaken by the Ministry of Interior during the period are a distribution network at Mecca, storage facilities and water storage construction and delivery lines at Medina, and some necessary projects at Tayif and al-Hasa.

Community Water Systems

Dam construction to supply water to the Abha area and the on-going project to provide a system at Khashm Ela'n will be completed; 550 wells will be drilled. Water distribution systems or expansions will be completed for 162 communities. When distribution systems are completed by the Ministry o fAgriculture, they will be operated and administered by the Ministry of Interior.

Studies

Studies will be undertaken to determine water requirements of the urban areas and communities of the Kingdom, and the most economic means of meeting these needs. Alternative sources of supply will be considered, including dams, wells, pipelines, tank trucks and desalination.

Water Desalination Plants

The large desalination plant at al-Khobar and the smaller one at Khafji will be completed in 1390-91. Other small plants are to be constructed and the Jiddah plant is to be expanded twice during the remainder of the program period.

The execution of those projects will commence after the completion of the proposed study during the first year, so that the execution of any will be based on feasibility and priority. A fuel pipeline for the existing Jiddah plant is proposed for the first plan year. Foreign firms will operate and maintain the desalination plants at Jiddah, Duba, al-Wajh and al-Khobar. Other plants may be operated and maintained under similar contracts, depending upon the technical capabilities of the Ministry staff at the time the plants are completed.

A new headquarters building, and training center are proposed for the Saline Water Conversion Office.

Organization

The organization of the Ministry of Interior will be strengthened, particularly in account collections. The latter improvements will increase government revenues and tend to discourage excessive usage of water.

Consideration will be given to making the status of some organizations in the potable water program autonomous bodies.

Training

Training for the most part will be provided on-the-job by foreign contractors, but training abroad will be offered only to key employees.

Financial Allocations

The total financial requirement of the urban and community water program will be SR 1,551.7 million as follows (details are included in Table 46):

	Cost in SR Millions
Ministry of Agriculture and Water	1,331.6
Ministry of Interior	220.1
Total	**1,551.7**

Revenues to the Ministry of Interior for Municipal Affairs are currently SR 26 million. Total revenues will be about SR 120 million per year when current and proposed systems are completed, improved collection practices are implemented, and revenues are received from the desalination facilities. This is about twice the level expected of the annual recurrent cost at the end of the period.

TABLE 46

FINANCIAL ALLOCATIONS FOR URBAN AND COMMUNITY WATER

(SR Millions)

	Recurrent	Project	Total
Ministry of Agriculture & Water			
Operation and Maintenance of Existing Facilities	125.8	—	125.8
Riyadh Water System and Community Well Maintenance Contracts	—	156.8	156.8
Riyadh Water System Phase I Completion and Expansion	—	120.9	120.9
Jiddah Water System Improvement	—	52.7	52.7
Community Well Drilling	—	113.7	113.7
Community Distribution System Construction	—	256.7	256.7
Dam Construction	—	22.5	22.5
Al-Khobar Desalination Plant Construction and Maintenance	—	110.7	110.7
Jiddah-al-Wajh-Duba Desalination Plant Maintenance	—	118.2	118.2
Other Small Desalination Plants Construction	28.4	80.3	108.7
Jiddah Desalination Plant Fuel Pipeline	0.4	7.0	7.4
Jiddah Desalination Plant Expansion	—	94.3	94.3
Studies	—	35.6	35.6
Training Center	0.6	3.0	3.6
Headquarters Saline Water Conversion Office	1.2	2.8	4.0
Ministry of Agriculture and Water-Subtotal	**156.4**	**1,175.2**	**1,331.6**
Ministry of Interior			
Projects: Medina, Mecca, Tayif, Al-Hasa and Public Utilities Department of Eastern Province	35.1	185.0	220.1
Total	**191.5**	**1,360.2**	**1,551.7**

MUNICIPALITIES

Recent years have seen considerable progress in the modernization of municipal facilities and services throughout the Kingdom. Major roads have been opened (at a considerable land acquisition cost), asphalted and lighted in many of the medium size and smaller municipalities where asphalted roads never existed, and considerable progress has been registered in extending the grid of asphalted roads in the major cities and towns of the Kingdom.

Municipal buildings (such as slaughterhouses, vegetable and meat markets, municipality buildings and garages, etc.,) have been erected in many of the Kingdom's municipalities. Sewage systems are operating in al-Khobar (where more than 70 percent of the households are connected), and in Dammam (where house connections have been started); the building of sewage systems in major cities (such as Riyadh, Jiddah, Mecca and Medina) is well under way. Power systems have been constructed by the Department of Municipalities in Jaof, al-Wajh, Hayil, Qurayyat, Tabuk and Najran. Control of those has recently been assumed by the Ministry of Commerce and Industry. Water Departments under the Department's jurisdiction take care of water supplies in Mecca, Medina, Tayif, and Hofuf. (The Public Utilities Department of the Eastern Province is responsible for water supply and sewage disposal in al-Khobar and Dammam.)

Objectives and Targets

The objectives and targets of the Plan include the following:

1. Continuation of asphalting streets, paving sidewalks, planting trees where practicable, and opening streets where traffic conditions warrant the step; emphasis will be given to improvement in traffic flow and reduction of dust. By the end of the period, major arteries in large and small communities will be paved; in major and small cities, only back roads will remain unpaved.

2. Expansion of street lighting to include all asphalted roads in all municipalities as well as major unpaved roads throughout the Kingdom. Almost complete coverage of the road system is expected by the end of the program period.

3. Completion of municipality requirements for urgent construction by the end of the Plan such that each municipality will have a municipal building, a slaughterhouse, a meat and vegetable market, and, where required, a municipal garage.

4. Completion, as far as possible, of sewage systems for major cities and important towns in the Kingdom that are in urgent need for those systems and particularly those for which final studies are currently being prepared.

5. Completion of storm water drainage systems for certain major cities. Systems will be completed for each of the major cities for which final studies have been made or are soon to be initiated.

Programs and Projects (See Fig. 25)

Road Building

A major program during the period will be to pave roads, construct sidewalks and install street lighting. Projects will provide for such facilities for about 320 kilometers each in Riyadh and Jiddah; 225 kilometers in Mecca; 90 kilometers each in Medina, Tayif and Hofuf; 45 kilometers each in Buraydah, Dammam and al-Khobar. The remainder, about 550 kilometers, will be built in smaller municipalities.

Municipality Buildings

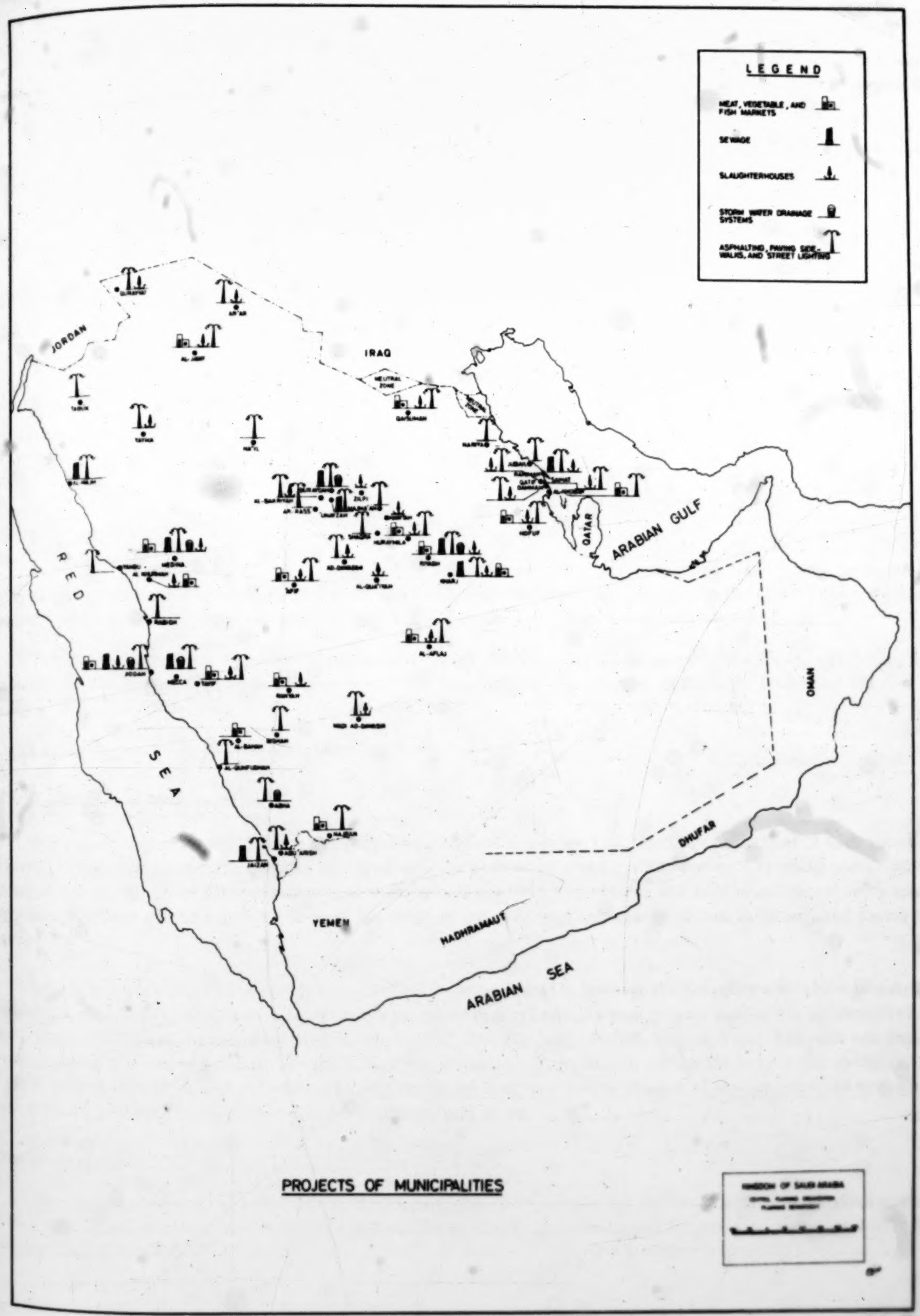
By the end of the period, all municipalities will be equiped with a modern, fully equipped slaughterhouse, a meat market and a vegetable market, and where appropriate, a fish market; and in most cases, a municipality garage.

Municipal buildings will be completed in the 11 main cities of the Kingdom.

Sewage Systems

Twenty-three percent of the total budget for the program period will be spent for sewage systems. Seventy-four percent of this will be expended in four major cities: Riyadh, Jiddah, Mecca and Medina. Thirteen percent will be used for 'Unayzah and Buraydah; Rahima, al-Wajh, Jizan and al-Kharj will absorb remaining 13 percent.

Other towns in the Kingdom are in need of sewage systems, but for several reasons construction is not planned for them during the period. Those must wait until the end of the Plan because of the time required to prepare final design studies, and existing priorities within available funding.



PROJECTS OF MUNICIPALITIES

FIG - 25

Storm Water Drainage

The possible loss of life and property due to storm damage is sufficiently severe to justify construction of storm water drainage systems for the major cities of the Kingdom. Storm water drainage systems should be completed during the plan period for Riyadh, Jiddah, Mecca, Medina, Abha and Buraydah.

The reasons for not proposing construction of storm water drainage systems for other municipalities within this period are similar to the reasons delineated above under sewer systems.

Other Projects

Facilities proposed that will greatly increase the comfort of urban dwellers, include, but are not limited to, the following:

1. Public toilets;
2. Small earthworks to prevent flooding;
3. Wind screens to reduce dust;
4. Municipal garages;
5. Public parks in the major cities.

Other Commitments

In addition to these projects, the Department of Municipalities has jurisdiction and fiscal commitments related to the water departments in Mecca, Medina, Tayif and Hofuf, and the Public Utilities Department of the Eastern Province (the latter being responsible for water supply and sewage disposal in Dammam and al-Khobar).

The required sums will be allocated to complete the Public Utilities Department of the Eastern Province, link the houses to the sewage systems in Dammam and Khobar, increase the quantity of drinking water and improve its quality in those two cities.

Lastly, the water networks in Hofuf and Tayif will be improved.

Department of Municipalities

Other major items proposed are to conduct some studies and to expand the buildings of the central administration in Riyadh. Considering the probability of an increase in the number of municipalities during the coming years and the accompanying expansion of responsibilities and volume of work, the Department will require additional office space. The present facilities will be expanded to meet the needs of the personnel increases predicted to be required during the period.

Sewage system studies have not been performed for several sizable towns in the Kingdom which have population densities and other characteristics such as to require proper sewage systems. Sewage systems studies will be completed for Tayif, 'Unayzah, Tabuk, Najran, Al-Kharj, Hayil, Yanbu', Ras al-Khafji, Bishah, and al-Wajh. Regional and master planning studies are needed so that the expenditures on municipal programs can realize the most value to the people of the Kingdom. The plans will aid in determining the location of new roads, phasing of sewage networks and storm water drainage projects, location of municipal buildings, and so on.

Financial Allocations

The recurrent allocations proposed by the Department of Municipalities for the period, excluding allocations for the Department's water projects, total SR 1,037 million and the project allocations for the same period total SR 1,884 million as shown in Table 47.

TABLE 47

FINANCIAL ALLOCATIONS FOR MUNICIPALITIES

(SR Millions)

	Recurrent	Project	Total
Administration Expenditures for Existing Facilities	969.0	—	969.0
Sewer Systems	45.0	680.1	725.1
Storm Water Drainage Systems	3.0	273.5	276.5
Asphalting, Sidewalks and Street Lighting	8.5	719.2	727.7
Slaughterhouses	5.0	23.9	28.9
Markets	0.6	14.0	14.6
Municipal Buildings	0.5	7.7	8.2
Land Acquisitions	—	80.9	80.9
Other Projects	4.8	29.9	34.7
Department of Municipalities — Projects of the Central Administration	1.0	55.0	56.0
Total*	**1,037.4**	**1,884.2**	**2,921.6**

* *Allocations for water projects of the Department of Municipalities is SR 220.1 million of which SR 185.0 million is project cost and SR 35.1 million is recurrent cost. This is included in the section of this chapter covering Urban and Community Water.*

CHAPTER VIII

TRANSPORT AND COMMUNICATIONS

Transportation and communications contribute to the development of all other sectors of the economy. The components of the systems, including roads, railroads, seaports, air transport, postal services and telecommunications, must be expanded to meet the demands arising from the growth of the other sectors.

Considerable progress has been made in developing adequate surface and air transport systems in recent years, but these systems will need continuing emphasis in the next several years. Postal and telecommunications services will also need to be improved and expanded.

Transportation and communications services are expected to grow at an average annual rate of 12.9 percent during the Plan as measured by their contribution to GDP. This compares with a growth rate of 11.8 percent during the previous five years.

By the end of the Plan, the major and secondary road network will be completed, the feeder road construction will have been initiated, and a program of rural road construction will have been undertaken. The airport construction and improvement program will be well underway. Automatic telephone systems will be installed in the cities and most of the towns. The most important intra-Kingdom links of the telecommunications system will be completed. Service to the Arabian Gulf area by microwave or coaxial cable will be available during the first portion of the period. Service to other foreign areas via satellite will be possible before the end of the Plan.

Implementation of these programs will require stronger organizations and more trained personnel. Improvements in operations and methods will be emphasized. Replacement of foreign workers with Saudi Arabians is an overall goal that will be pursued throughout the Plan.

ROADS

In a large and sparsely populated country, such as Saudi Arabia, a network of well planned roads has an important part in the development of the country. This fact was realized by the Government when the first road construction program was initiated in 1370-71. Later, in 1383, a new Main Road Program was prepared for the construction of roads of primary importance with the help of international consultants. Responsibility for roads was vested in a Department of Roads in the Ministry of Communications.

This Plan is a further step in the roads program, and as an integral part of the national plan will result in the coordinated development of the whole country to achieve well defined objectives and targets.

Objectives

Generally the road sector aims to promote the growth of other sectors while minimizing the overall cost of the transportation required for their projected economic and social activities. This Plan has the following objectives:

1. Development of regulations and measures which promote the efficient use of the roads;
2. Completion of highways and primary roads connecting the major urban centers which are now being constructed;
3. Study, design and construction of new internal paved roads, including reconstruction of some old roads;
4. Provision under a new program for the study, design and construction of feeder roads;
5. Provision for the construction and maintenance of rural roads;
6. Development of a maintenance program for existing and new roads;
7. Improving the organization and administration system of the roads sector;
8. Development of the manpower resources through training;
9. Replacement of consultants now employed for studies, designs and supervision of construction with local personnel.

Targets

1. Completion of 1,195 kilometers of roads under construction;
2. Construction of 1,286 kilometers of roads already designed;
3. Construction of 1,831 kilometers of roads under study and design, or to be studied and designed;
4. Construction of 900 kilometers of feeder roads;
5. Construction of about 2,000 kilometers of rural roads.

Required Regulations for Efficient Road Use

Road Use Regulation

At present, the use of roads is unregulated, however, a detailed proposal has been prepared for approval by the Council of Ministers which limits the maximum axle load and maximum sizes of vehicles using the roads in the Kingdom. It is expected that the proposal will be approved early in the plan period.

The Department of Roads will cooperate with the Ministry of Interior in preparing a program to enforce these regulations during the plan period. Initially, five permanent stations with weighing scales will be set up to check the loading of trucks. In addition, portable scales will be carried in pick-ups or jeeps. The permanent stations will check the truck loads before commencing a journey; the portable scales will be used for the actual control and enforcement of regulations.

Road User Charges

The Government's total revenues from road user charges (such as tax on petroleum products, and registration, transfer and license fees on vehicles) is estimated to be about SR 59 million in 1388/89. Allowing a 10 percent increase per year, the expected total revenue for the plan period will be about SR 400 million. On the other hand, expenditures on maintenance of roads for the plan period are estimated to be around SR 600 million. Thus revenue from the road use charges will cover only a part of expenditures on maintenance of roads unless the tax structure is modified. A tax structure that charges individual road users (vehicles) approximately in proportion to their use of the facilities will be prepared.

Programs

Road Construction

Main Roads. Of the 3,311 kilometers of roads under construction, it is estimated that the equivalent of 2,116 kilometers will be completed before the start of the plan period, leaving the equivalent of 1,195 kilometers for completion during the period.

Study and design have been completed for those main roads which can make the most important contribution to the development of the Kingdom and will be selected for priority construction. Projects thus selected total 1,286 kilometers during the period.

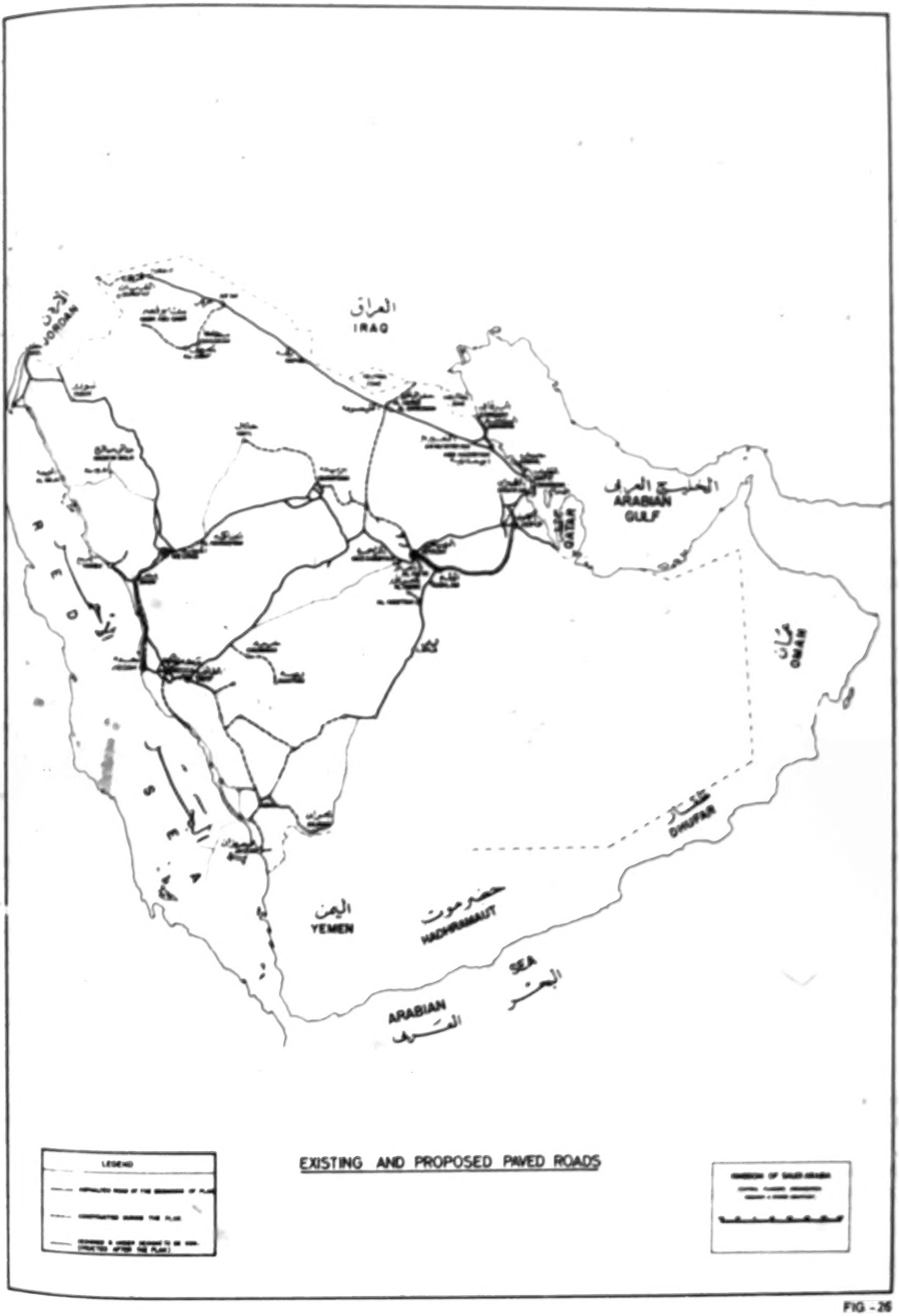
In addition to these roads, many are under study and design and others have been selected for future analysis and design. The total length of roads in these two categories comes to 1,925 kilometers and it is planned to complete an equivalent of 1,831 kilometers during the period.

The total for main roads to be constructed will be 4,312 kilometers. (See Fig. 26)

Feeder Roads. Feeder roads are short stretches of road connecting villages to main traffic arteries. The feeder road program, notwithstanding the size of the main road program, is a necessary strategy in achieving the objective of accelerated development of the Kingdom.

This program is divided into three phases — the first two for study and design, and the third for construction. It is projected that designs for 1,200 kilometers of feeder roads will be ready by the end of 1391-92 and by the second half of the next year the Ministry should be in a position to begin construction. It is thought advisable to start construction of 150 kilometers of roads somewhat later and 750 kilometers will be scheduled for the remainder of the Plan.

Rural Roads. These roads are intended to ease vehicle movement from villages to the main roads or to the neighboring villages until the construction of asphalted connections is justified by the traffic load.



EXISTING AND PROPOSED PAVED ROADS

FIG - 26

The construction of rural roads is carried out by the Rural Roads Division of the Ministry; this division controls seven branches with one or more teams in each branch. There now are 17 teams; it is proposed to add 3 more during the plan period. Thus there will be 20 teams to construct about 2,000 kilometers during the plan period.

Hajj Roads. Early in the period, studies will be undertaken to determine how traffic congestion in the Hajj area can be eased during the annual pilgrimage. During the remainder of the period, roads will be constructed in the area based on the priorities established by the studies.

Studies

Main Roads. Studies related to the main roads program, initiated earlier, will be continued during the plan period, but with much greater emphasis on economic evaluation.

It is estimated that 1,356 kilometers of main roads will be subjected to study and design during the period, including 230 kilometers to be designed by the Road Department at the Ministry of Communications.

Transportation Study. In the early development of the Kingdom's road network, roads were selected for construction on the basis of linking important population centers. A second phase of the program brought other important centers into the network. The studies and designs for such roads included economic evaluations based on the individual links without regard for the overall needs of the Kingdom, or the effects on the network of any future construction. While this approach would eventually provide a road network for the Kingdom, it is not the most effective or efficient means of achieving such an objective. It is considered that the optimum solution to the road transportation problems of the Kingdom can be achieved only after the completion of a comprehensive study considering all modes of transportation. Such a study would investigate the following:

1. Present and future transportation requirements;
2. Interdependencies of transport links;
3. Alternative network configurations.

After consideration of data relating to these topics, the study would formulate the optimum combination of future transport projects, and assign priorities including Road Program Priorities. It is estimated that a consultant organization would be able to complete such a study in about 18 months.

Maintenance

The last years have seen great progress in construction of paved roads in the Kingdom; however, such roads were not properly maintained. This has resulted in serious deterioration of some roads and others are threatened. The Ministry therefore authorized a consultant company to complete a detailed study covering the following points:

1. A comprehensive road inventory;
2. Evaluation of the present situation;
3. Proposals for an organization to take care of maintenance in the future.

This study has recently been submitted and is being considered by the Ministry. During this plan period, the maintenance program is expected to eliminate the backlog of work and build up an organization so that within ten years the Ministry will be in complete control of all maintenance with adequate trained Saudi personnel on its rolls.

It is expected that by the end of the period, 8,260 kilometers of roads will require routine maintenance, and during the period, 6,800 kilometers will receive preventive maintenance. A total of 252 kilometers will have to be rebuilt. Lack of adequate facilities and training personnel makes it necessary to depend on foreign help for supervision and on contractors for the execution of the work during the plan period. However, a systematic training program will be launched, utilizing either consultants, foreign firms, agencies, or foreign governments, as required, so that the Ministry can gradually take over the maintenance of roads under its direct control.

Organization and Procedures

Major changes in organization or procedures are not expected during the plan period; however, the Maintenance Department will be developed and the materials testing laboratory will be expanded. In addition, a management study will be conducted to determine if modifications would produce any increase in efficiency.

As the few traffic surveys carried out in the past have helped in designing and programming both construction and maintenance works, a comprehensive program of traffic counts and surveys will be carried out during the Plan to provide the detailed information required for implementation of the Plan.

Financial Allocations

The plan for roads will cost SR 3,919 million, of which SR 286 million are for recurrent expenditures. Detailed information is included in Table 48.

TABLE 48

FINANCIAL ALLOCATIONS FOR ROADS
(SR Millions)

	Recurrent	Project	Total
Administration and Maintenance	219.3	—	219.3
Training	11.4	—	11.4
Planning and Research	9.2	26.2	35.4
Main Road Construction	—	1,946.9	1,946.9
Feeder Road Construction	—	180.0	180.0
Rural Road Construction	—	41.0	41.0
Hajj Roads	—	433.7	433.7
Emergency Works	—	220.0	220.0
Supervision of Construction	—	86.8	86.8
Maintenance Program	46.5	697.7	744.2
Total	286.4	3,632.3	3,918.7

PORTS AND RAILWAY

Port expansion was recognized at an early date as a necessity if the Kingdom was to obtain the materials, equipment and foodstuffs needed for development. Substantial sums have been invested in the ports of Jiddah and Dammam. With these expansions nearing completion, the capacities of these ports now approach the level required for efficient operations. The program during the Plan will complete these two expansion projects and develop some of the minor ports.

The Saudi Arabian Railways Corporation serves the port of Dammam and provides a transportation link between Dammam, Hofuf and Riyadh. In recent years its long-haul routes have been subjected to considerable competition from trucks in the private sector.

Objectives

The objectives of the program are to:

1. Increase the capacity of Jiddah Port to 1.7 million tons per year by the end of the period.
2. Increase the annual capacity of Dammam Port to 2.75 million tons, including both exports and imports.
3. Expand the capacity of Jaizan Port to 500 thousand tons annually; and,
4. Complete studies to determine which other ports should be developed and the future of the railway.

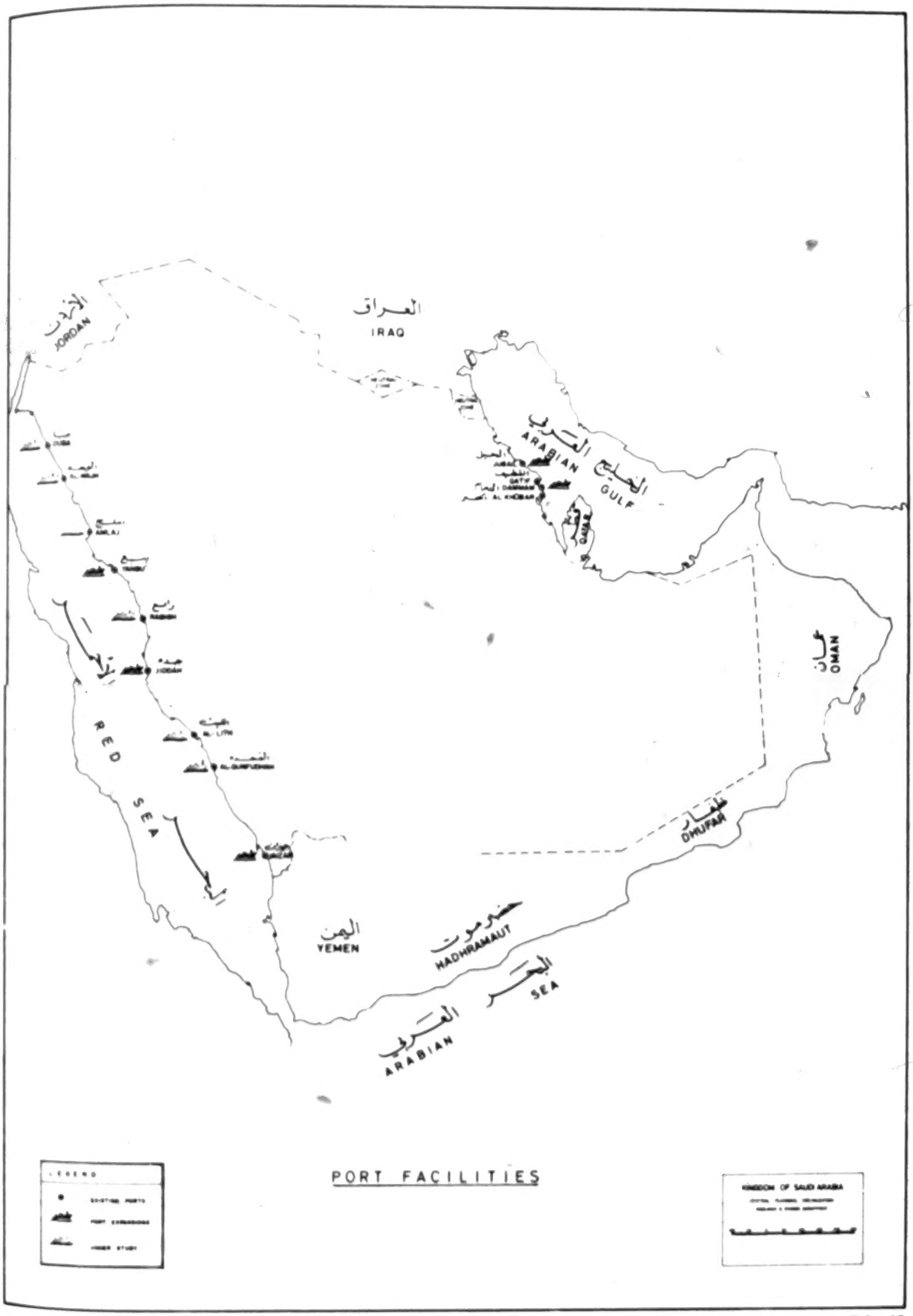
Programs

Port Construction

The projects at Jiddah and Dammam will be completed by the end of the period. It is expected that further expansion will not be required until after the beginning of the new Hijri century.

If economically feasible, a third berth at Yanbu' is proposed. It is not expected that further expansion at Yanbu' will be required until the late 1390's.

The current Jaizan port expansion will be completed. The future requirement for this port to serve the southern Red Sea will be determined by the feasibility studies of Red Sea ports now in progress. Further development of minor ports will also depend upon the results of these studies. Some of these may be expanded during the period. (see Fig. 27).



PORT FACILITIES

FIG. - 27

Maintenance

The maintenance of certain types of equipment used at the ports is included in the contracts for maintenance of road equipment. A study is to be made by Ministry personnel to determine means of improving the other maintenance programs for ports.

Railway

A study is to be undertaken to determine proper rate levels, considering potential markets and competition. In addition, the Corporation is to seek long-term contracts for certain types of cargo at a special rate. These should reduce the deficit in revenues compared to expenses.

The long term role of the railway will be determined by the transportation study of the Kingdom which will be completed during the first two years of the period. Major programs designed to improve the railway's operations will be deferred pending the findings of this study.

Studies

A study of the minor ports on the Red Sea is already in progress. The "General Transport Study" will consider the other aspects of sea and rail transportation.

Training and Personnel

Efforts will be made to recruit local personnel for training both on-the-job and at the Marine Academy at Jiddah. Training programs at the Marine Academy will be strengthened. It will be necessary, however, to rely for the most part on expatriate personnel to carry on routine operations during the period.

Organization

It is proposed to combine the administration of the Jiddah and Yanbu' Ports under a single autonomous governmental body. With this type of arrangement, fees could be varied to encourage off-loading at Yanbu' for much of the troublesome cargos such as reinforcing steel and cement.

Financial Allocations

The project cost of the port development program is expected to be SR 691 million. Recurrent costs will be SR 131 million of which SR 72 million represents the subsidy to the Saudi Arabian Railway Corporation as shown in Table 49. The annual subsidy to the Corporation has been maintained at the current level pending the findings of the transportation study.

Revenues from the ports will increase during the period, returning the cost of operating and maintaining them as well as making a contribution to the project costs.

TABLE 49

FINANCIAL ALLOCATIONS FOR PORTS AND RAILWAY
(SR Millions)

	Recurrent	Project	Total
Operation and Maintenance by Ports Department	59.7	—	59.7
Dammam Port and Railway Corporation Subsidy	71.5	—	71.5
Jiddah Port Expansion	—	64.0	64.0
Dammam Port Expansion	—	462.0	462.0
Other Red Sea Ports Expansion	—	123.0	123.0
Other Arabian Gulf Ports Expansion	—	14.0	14.0
Studies and Supervision of Construction	—	28.4	28.4
Total	**131.2**	**691.4**	**822.6**

SAUDI ARABIAN AIRLINES CORPORATION

Saudi Arabian Airlines is simultaneously developing to become, while functioning as, a modern air transportation system. This dual role has required making substantial efforts to train local personnel to assume at an early date the functions now being performed by foreigners. In effect, the airlines has had two staffs, one composed of Saudi trainees and another functioning as trainers and operators during the interim, thus making it a high cost operation. The program of the airlines represents a forecast of the means of achieving its long term objectives, but it has several limitations:

1. The unsettled political situation in the Middle East which includes some of its high density routes;
2. The lack of a funded plan to replace obsolete and uneconomic equipment; and,
3. The lack of sufficient historical data on which to forecast future trends.

Objectives and Strategy

The first objective of the Saudi Arabian Airlines Corporation is to operate the airline as a commercial entity and achieve financial independence from the Government except in those instances where losses result from routes served at the direction of the Government. In these instances, a contribution from the Government may be necessary to cover such losses.

The second objective is to contribute to the development of the national communication system by providing efficient scheduled and charter air service within the Kingdom. In the long run, the airlines must be able to provide domestic air service at a breakeven level without sacrificing quality of service.

The third objective is to develop a cadre of Saudi nationals skilled in the use of modern air transportation techniques and capable of progressing with technological advances in equipment and methods: This is a long range goal that extends beyond the scope of the period.

The fourth objective is to carry at least half the international traffic originating or terminating within the Kingdom. While many international routes are not profitable initially, they should be in the long run. In addition, they should immediately offer such non-financial returns as encouraging other airlines to offer service to the Kingdom (thus strengthening its links with the rest of the world), the religious benefits of linking the Kingdom with most of the Moslem world, and the political benefits of having a Saudi flag-carrier operating throughout much of Europe, Africa and Asia.

The fifth objective is to maintain leadership in technological progress in the air transport industry. Saudi Arabian Airlines proposes to play a dominant role in developing new and better ways to serve the air travelling public in the Middle East.

Targets and Programs

Marketing

1. The quality of domestic service will be upgraded consistent with the airport development program.
2. New markets will be studied and services added to better utilize equipment.
3. Jet service will be initiated to Najran, Jaizan, Bishah, as-Sulayyil, al-Wajh, Hayil and al-Jaof during the plan period.
4. A DC-6 cargo aircraft will be added to the European flights in 1973 if the market warrants.
5. Rome will be added to the European networks in 1971, and Paris and other markets will be studied to determine the potential of future service to these cities.
6. In 1972, the possibility of providing service to the major Muslim population centers throughout the world will be considered as a means of increasing utilization of the long range fleet.
7. The feasibility of providing air service for all inland mail will be studied jointly with the Postal Service.
8. It is proposed to replace domestic sales agents with airlines employees, and international sales offices will be staffed with corporate employees when traffic levels warrant.
9. The airlines will continue to ask the Government to require that its employees and contractors travel by Saudi Arabian Airlines when its routing is consistent with the individual's requirements. This would result in a substantial saving of foreign exchange and would also help combat the discounting of fares by foreign carriers in violation of air industry rules.
10. The Hajj market will be analyzed by area of origin of pilgrims and the more lucrative of these will be served consistent with equipment availability.
11. Inflight service will be improved and sales of consumer items will be expanded. Arabic decor and atmosphere will be enhanced through cabin attendant uniforms, cuisine, etc.

12. When airport facilities become available, the airlines will operate dining and commissary units within the Kingdom.

13. The seat selection system by passengers will be expanded as communications systems improve.

14. Domestic tariffs will be studied to determine the level which covers more costs but does not discourage travel. Domestic promotional fares will be introduced.

15. The airlines will continue to seek governmental assistance to encourage involved agencies to accept ICAO recommendations for the facilitation of passenger and cargo processing.

16. A program is underway to readjust existing bilateral agreements with foreign governments whose national carriers operate to the Kingdom without reciprocity for Saudi Arabian Airlines.

17. Studies will be undertaken to determine the profit or loss attributable to each route.

Operations

1. Passengers boarded are expected to increase 7 percent per year during the period and revenue passenger miles to increase 8 percent annually.

2. Traffic on domestic routes is expected to grow faster than that on the more profitable international service.

3. Load factor is forecast to increase from 44 percent in 1969 to 54 percent by the end of the Plan.

4. Two additional 100-passenger aircraft will be required by the end of the period to accommodate the increase in traffic.

5. DC-6, Convair and some of the DC-3 service will be phased out.

Technical Programs

1. The airlines will phase out and lease many support functions as rapidly as the local economy can provide them.

2. The internal capability to overhaul aircraft is to be expanded by the end of the period to encompass almost all work now performed by contractors. Quality control will be expanded to all shop areas.

3. Purchasing and stores procedures are to be revised.

Communications

Reservations, service, and control of operations administration will be greatly facilitated by the Ministry of Communications intra-Kingdom communications network. Point-to-point communications will be installed at all airports by the end of the period. Ground-to-air communications will be installed by the end of 1973 at the three stations that now lack these facilities.

Manpower and Training

The long term program of replacing contract and consultant personnel with Saudi nationals will continue. A secondary goal will be to decrease the number of consultant employees and increase the use of third-country nationals with resulting reduction in costs. As vacancies occur, the first effort will be to upgrade qualified Saudi personnel. Primary attention will be paid to the utilization of the limited number of Saudi nationals in positions suited to their ability to grow and assume greater responsibility.

Among the new employee practices proposed, or being developed, are:

1. An employee savings plan;
2. A recreation program;
3. Periodic meetings with management;
4. A suggestion plan;
5. An employee service recognition program:
6. Computerization of employee records; and
7. A salary review program.

Property and Facilities

It will be general policy to lease rather than invest in real property and other major facilities. A program has been developed for the refurbishing of certain facilities. New warehouses will be constructed in Jiddah.

Data Processing

Much of the record keeping will be computerized, including accounting, payroll, statistics, inventory control and sales analysis. It is anticipated that imported personnel now being used for more routine operations will be replaced by Saudi nationals now being trained. Imported personnel will continue to be needed for the more sophisticated operations, such as crew simulation training, marketing and other operations.

Financial Allocations

In the past, the Government has purchased flying equipment for the airlines, thus funds have not been set aside for depreciation under past accounting procedures. With a fund established through depreciation, the airlines could establish itself on a sound financial basis, and provide its own capital equipment. It is therefore proposed to set up a depreciation allowance beginning in the second plan year.

The amount budgeted as the Government's contribution to the corporation during the period is SR 392 million. (See Table 50). It is proposed that the amount for each year will be equal to the deficit the corporation incurs because of training and other extraordinary costs associated with developing a national airline and as a result of serving routes at the Government's direction. The amount of the deficit resulting from these sources will be determined by isolating the unusual development costs and by the studies that are to be made of the profitability of each route of the airlines.

TABLE 50

FINANCIAL ALLOCATIONS FOR SAUDI ARABIAN AIRLINES

	SR Millions
Expenditures	1,267.5
Depreciation	81.9
Total	1,349.4
Revenues	957.8
Deficit	391.6

CIVIL AVIATION

The Civil Aviation Department provides support to all air traffic in the Kingdom. It furnishes air traffic services, airport development and maintenance, communications and navigational aids. The program of the Department encompasses improvements in all of these areas plus proposals for organizational improvements. During the program period it will be the Department's policy to :

1. Retain direct responsibility for all operational services concerned with air safety;
2. Contract with foreign firms for the maintenance of equipment associated with operational services until qualified local personnel can perform this function;
3. Contract with local contractors for all general maintenance work within their capabilities;
4. Contract with foreign firms for the maintenance of mechanical, electrical and electronic equipment until local employees or contractors are capable of providing this service; and,
5. Recruit and train a cadre capable of planning, designing and supervising all work to be executed by contract.

Objectives and Targets

The existing air traffic services are not commensurate with needs of aviation in the Kingdom. Areas to be improved include the following:

1. Operational standards should be improved as rapidly as possible to meet the requirements of air transport.

2. The general level of civil aviation support will be raised to an acceptable standard by improvement of the existing airports, addition of communication, navigation and other supporting equipment, and training of Saudi nationals to undertake the tasks now performed by foreigners.
3. It is proposed to extend the Jiddah Flight Information Region, which now covers about two-thirds of the Kingdom, to cover the entire Kingdom. This implies the establishment of new control airway routes, and that radar installations must be operational to monitor areas of 200 miles around Jiddah, Riyadh and Dhahran.
4. Improved air/ground communications for all the domestic airports, as well as international communication links, will have to be established by the end of the period.
5. Navigational aids and instrument landing systems for the major airports will be installed.
6. Search and rescue services are proposed to cover the entire Kingdom by the end of the period, requiring the addition of equipment and personnel, and coordination between the interested agencies.
7. It is proposed to establish fire and rescue organizations at all airports with scheduled air service by the end of the period.
8. It is expected that standards for registration, inspection and certification, and licensing of aircraft and personnel will have been established by the end of the period, and that necessary procedures will have been put in force to carry out these functions.
9. The training operations at the two technical institutes will be increased to provide 555 trainees during the period, more than doubling the output of the previous five-year period. On-the-job training will be continued, as will foreign training for selected personnel.
10. It is hoped that by working with other organizations it will be possible to improve immigration, health and customs procedures, thus facilitating passenger and freight processing at the international points of entry.

Programs

There are five general programs:
1. Operational services.
2. Administrative services.
3. Airport development and maintenance.
4. Communications systems installation and improvement.
5. Navigational aids, radar installation and maintenance, and flight checking.

Operational Services

Most of the projects in this program entail increased staffing to bring existing operations up to an acceptable standard. The projects include improvements in air traffic control, search and rescue services, aeronautical information services, and communications systems. Airworthiness standards are to be developed for aircraft operating in the Kingdom, and licensing procedures are to be revised for pilots, flight engineers and aircraft mechanics. Fire and rescue operations at many of the 23 airports with scheduled services are to be brought up to an acceptable standard through staffing and the purchase of equipment.

Administrative Improvements

The Statistical Section will be reorganized and some modifications in working area will be undertaken. Training projects include expansions of the existing training centers at Jiddah and Dhahran and offering fellowships locally and abroad to some key personnel in the Department. Continuing effort will be made to improve the organization at all levels and for all functions.

Airport Development and Maintenance

The present airport at Jiddah is surrounded by urban development which presents a hazard, and it is also inadequate for the annual peak in Hajj air traffic. A study for a new airport at Jiddah will be completed during the Plan; construction and development of several other airports are included in the Plan.

Communications

A teletypewriter link between Dhahran and Cairo is proposed. An extended range, very high frequency radio installation is planned to provide better coverage for aircraft enroute. High frequency direct speech communication facilities will be provided at Jiddah for international controller-to-controller communication. Ground-to-air very high frequency and ultra high frequency communications equipment will be installed at the airports for control of military and civil aircraft.

Navigational Aids

Seven radar stations are to be installed to control air traffic in the Kingdom, as well as seven ground stations from which aircraft can determine their direction and distance. An aircraft to test navigational equipment and provide standby air search and rescue facilities is to be purchased.

Financial Allocations

Project costs of the Civil Aviation Department program will amount to SR 449 million, while recurrent costs will be SR 436 million, or a total of SR 885 million as detailed in Table 51.

It is anticipated that revenues of the Department will be sufficient to return 10 percent of the operation costs.

TABLE 51

FINANCIAL ALLOCATIONS FOR CIVIL AVIATION

(SR Millions)

	Recurrent	Project	Total
Operation and Maintenance	305.5	—	305.5
Operational Services Improvements	50.2	36.3	86.5
Administrative Improvements	4.9	2.6	7.5
Airport Development	22.4	311.5	333.9
Communications	4.7	13.7	18.4
Navigational Aids	48.8	85.0	133.8
Total	**436.5**	**449.1**	**885.6**

TELECOMMUNICATIONS

The program to provide a modern telecommunications system for the Kingdom is well underway. The first phase of the automatic telephone system will be completed by the middle of the Plan. It is now evident that the initial estimate of the requirement for telephones falls considerably short of actual demand, and the program will require expansion during the period

The telephone system alone will not be fully satisfactory until the installation of an intra-Kingdom communications system using modern techniques has been completed. Such a network is scheduled together with requisite facilities for communication with areas outside the Kingdom. Other ancillary facilities are proposed for the period.

Objectives and Targets

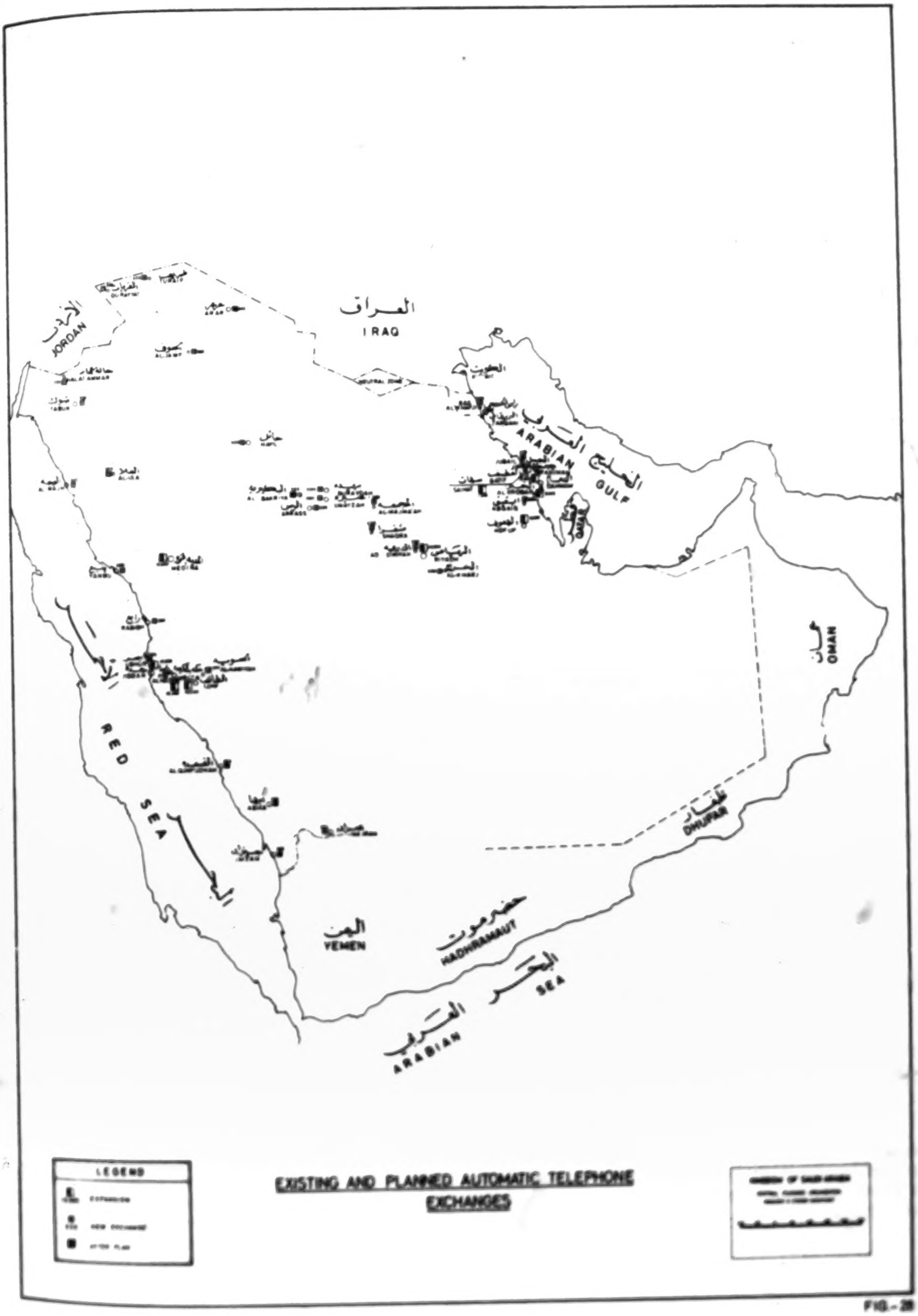
The general objective is to build a national communications system. A primary target is to provide telephone subscribers with trunk dialing facilities between the important cities in the Kingdom by the end of the period. It is expected that a total of 137.2 thousand telephones will have been installed by the end of the period, nearly all of which will be automatic telephones. Direct access will be provided to all important centers in the eastern and western hemispheres as well as the neighboring states. Telegraph services will be improved by introducing teleprinters to replace existing Morse Code radio circuits. Telex-Gentex will be expanded and photo-telegraph services will be introduced.

Attainment of these targets, while not meeting the total expected demand for such services in the Kingdom at the end of the period, will tax the administrative and physical capabilities of the Ministry of Communications. A base will have been established, however, for further orderly expansion in the years following.

Programs and Projects

Telephone Systems

Currently, 25,000 automatic telephones, of the total of 125,200 proposed for 14 major population centers, have been installed. Existing manual exchanges in 20 smaller communities will be replaced by automatic telephones, representing a total of 9,500 lines, (see Fig. 28). Some of the manual exchanges being removed will be installed in selected rural areas to provide interim telephone service.



EXISTING AND PLANNED AUTOMATIC TELEPHONE EXCHANGES

FIG. - 28

The installed telephones, including those manually operated, will total 137,200 by the end of the period, (see Table 52). This does not include the private systems such as the one owned by Aramco.

TABLE 52

NUMBER OF TELEPHONE INSTALLATIONS
(in thousands)

	Existing	Total Proposed
Automatic System		
Urban areas	25.0	125.2
Communities	—	9.5
Total	**25.0**	**134.7**
Manual Exchanges	—	2.5
GRAND TOTAL	**25.0**	**137.2**

A firm is being employed to operate and manage the automatic telephone system during the next five years. One of the important functions of this firm will be to develop methods of planning service extensions on a rational basis. Governmental agencies should undertake studies to determine future telephone requirements by area to facilitate this effort. By the end of the period it is anticipated that there will be sufficient numbers of adequately trained local personnel to undertake operations with a minimum of foreign personnel.

International Links

Earth stations are proposed at Jiddah and Riyadh to facilitate communication with most areas outside the Kingdom via satellite. The Arabian Gulf area will be linked to the Kingdom via microwave between Dammam and Bahrain which will be completed in the first year, and by a coaxial cable between Dammam and Kuwait which is scheduled for completion in the second year. These systems will replace the existing high frequency radio now utilized for international communications.

Telegraph Services

Teleprinter services are to be expanded in two phases. Telegraph services are to be expanded and improved while photo-telegraph services are to established.

Intra-Kingdom Network

The present system of low-power, high-frequency radio is generally inadequate for a variety of reasons. It is being augmented on an interim basis by the installation of six high-power transmitters at Jiddah, Riyadh, and Dammam along with ancillary equipment. At the same time a high priority is being given to the following proposed projects:

1. A coaxial cable and/or microwave trunk route connecting the western and eastern regions through Riyadh and Qasim;
2. An auxiliary coaxial cable and/or microwave network to connect major population centers in the Kingdom. The type, capacity and scope of the system to be undertaken is currently being studied, (see Fig. 29).

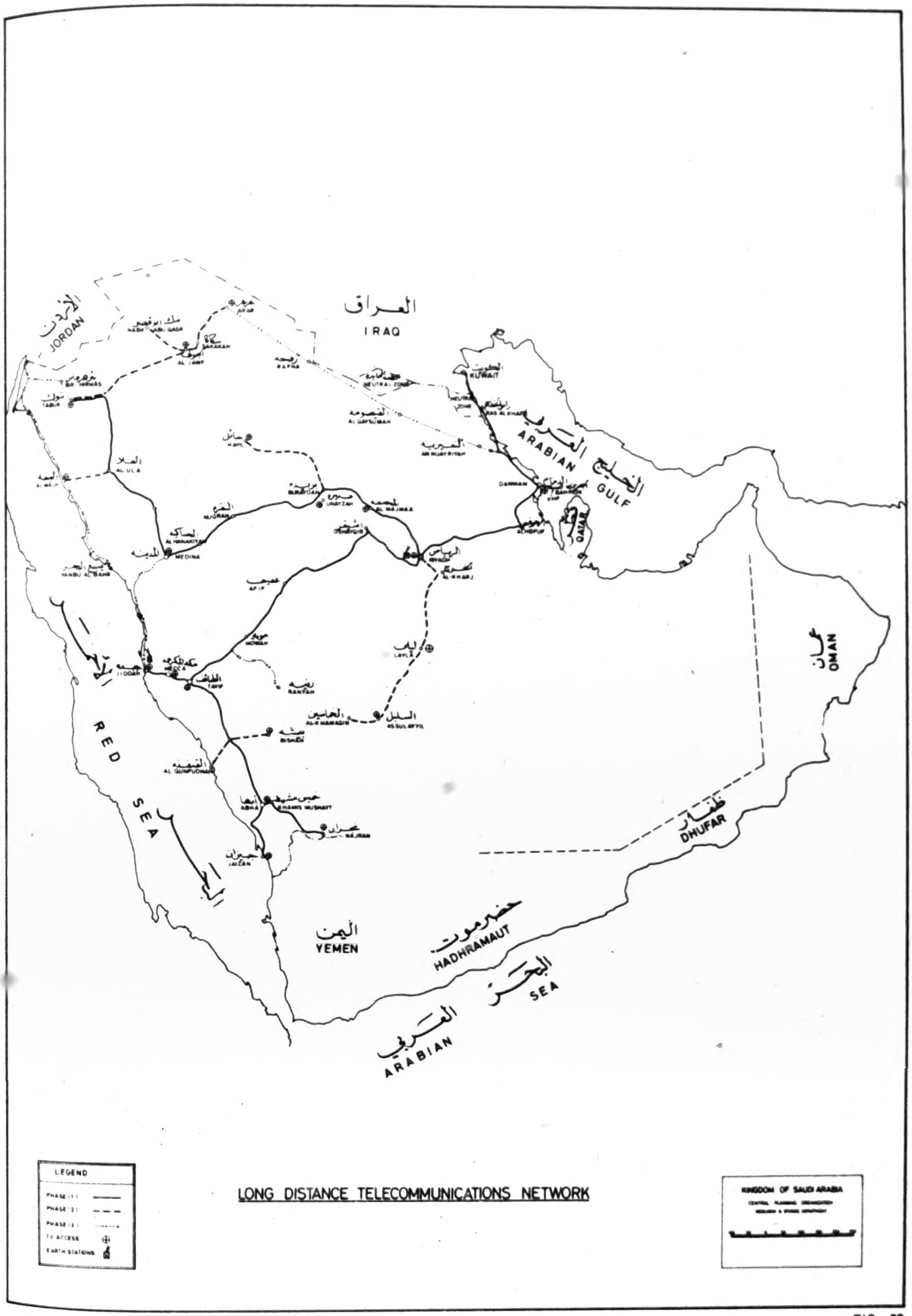
Monitoring and Testing

Laboratories to test and inspect equipment before acceptance from the installing contractor are to be established at Jiddah and Dammam.

Additional radio monitoring stations are to be established to control and monitor radio frequencies, identify type of radio emissions and locate stations causing harmful interference. Stations are proposed at Riyadh and Dammam.

Organization and Training

General strengthening of the organization will be necessary during the period. Complete separation of telecommunications and postal services early in the period will facilitate this by more clearly defining organizational responsibilities. Consideration should be given to the ultimate creation of an autonomous governmental body to operate the telecommunication services. Freedom from restrictive governmental rules, especially as related to personnel should help maintain efficiency at the level required for this business-type operation.



LEGEND

PHASE (1)

PHASE (2)

PHASE (3)

TV ACCESS

EARTH STATIONS

LONG DISTANCE TELECOMMUNICATIONS NETWORK

KINGDOM OF SAUDI ARABIA

FIG. - 29

The proposed establishment of the Telecommunication and Broadcasting Training Centers at Jiddah and Riyadh is a step toward providing the trained technicians required by the programs. On-the-job training of personnel by the foreign contractor employed to operate the telecommunications systems is also expected to markedly increase the reservoir of trained technical and administrative skills for future use by the Department.

Buildings

Most of the telecommunications offices are located in rented buildings; construction of 50 buildings to house these offices is anticipated during the period.

Financial Allocations

It is proposed that telecommunications facilities should be provided to the government on a "no profit-no loss (cost) basis". Rates which would provide a fair return on investment are proposed for non-governmental customers. It is anticipated that the firm being employed to operate and manage the telecommunications systems will undertake studies to determine a rational rate structure.

It is also anticipated that the project cost of the program during the period will be SR 905 million and recurrent expenditures will be SR 321 million. Consideration will be given to the possibility of financing part of the program from external sources. Expected expenditures are shown in Table 53.

TABLE 53

FINANCIAL ALLOCATIONS FOR TELECOMMUNICATIONS
(SR Millions)

	Recurrent	Project	Total
Operation and Maintenance of Existing Program by the Department	211.5	—	211.5
Local Telephone System	40.8	428.6	469.4
International Links	11.1	47.2	58.3
Intra-Kingdom Network (including provision for television transmission)	7.5	267.4	274.9
Testing Laboratories and Radio Monitoring Facilities	3.0	11.4	14.4
Telegraph Services	10.4	70.5	80.9
Training	36.8	21.7	58.5
Buildings	—	8.0	8.0
Minor Works	—	50.0	50.0
Total	**321.1**	**904.8**	**1,225.9**

METEOROLOGY

The Meteorological Department serves as a supporting function to weather-sensitive organizations in the Kingdom. These include those associated with defense and aviation, and some ministries like Hajj, Commerce and Industry, and Agriculture. To be effective, domestic and international data must be collected, analyzed, and quickly disseminated to the using organizations. If the Department is to adequately fulfill its role, considerable emphasis in the future must be placed on training and staffing, as well as the addition of some new facilities.

Objectives and Targets

The general objective of the program is to strengthen the Department so that it can assume its proper role in the development of the economy.

Specific targets are to:

1. Add facilities and personnel to enable the Kingdom to fulfill, by the end of the period, its commitment to the United Nations' World Weather Watch Program;
2. Meet the requirements of the Royal Saudi Air Force and Civil Aviation by the end of the second year of the Plan;

3. Combine the operations now included in the Ministry of Agriculture and Water into the Department by the end of the plan period;
4. Establish a training institute by 1391 with the cooperation of King Abdul Aziz University;
5. Strengthen the domestic data collecting and processing facilities during the period.

The attainment of these goals will result in the basic resources necessary for the Meteorological Department to serve the requirements of the Kingdom.

Programs

The World Weather Watch is a United Nations sponsored world-wide endeavor to improve weather data gathering. Since the Kingdom has agreed to participate in this effort, it will be necessary to fully staff the existing stations, as well as to establish three more surface observation stations and six upper air observation stations. These improvements, in addition to meeting the United Nations program, will also improve forecasting and weather analyses for areas within the Kingdom.

The Kingdom can obtain full benefits from the vast amount of international data available only by installing modern equipment for the reception of radioteletype transmissions from five international regional stations providing data for Asia, Africa, and Europe. Satellites which produce cloud pictures provide a means of assessing weather and are especially helpful in sparsely populated areas with widely scattered surface stations. These pictures also aid in the control of locusts. Stations to receive these pictures are proposed for Jiddah and Dhahran.

Air Force and Civil Aviation

A variety of weather maps relating to weather on the Arabian Peninsula and surrounding areas are transmitted from Cairo and Tehran and would be useful in preparing local weather forecasts. Installation of reception equipment in Jiddah is proposed; however, this information can be sent on a timely basis to users only when facsimile transmission equipment is installed in Jiddah and reception facilities are provided in strategic military points. Radio teletype equipment will be required in Jiddah and in the regional centers of Riyadh and Dhahran for the rapid exchange of data between these points.

Agrometeorological Requirements

The Ministry of Agriculture and Water now maintains about 200 stations for measuring precipitation. The Department will assume responsibility for gathering as well as processing these data.

Public Requirements

Certain activities in the Kingdom are especially sensitive to weather and accurate forecasts of expected weather conditions could conceivably avoid disaster in some instances. This is particularly true during the peak of the Haj. Stations will be installed at Mecca and Minna as well as in the centers of government — Riyadh and Tayif.

National Meteorological Center

Efficiency would be improved if the various facets of the Department were centralized in one building: a National Meteorological Center is therefore proposed for construction.

Climatological Requirements

A Division of Climatology will be established to process weather data. Workload in this Division will increase as observation stations are established and others become fully operational, and after the assumption of reponsibility for agrometeorological data processing.

Organization and Personnel

A National Meteorological School is to be established early in the period. This training facility will be installed in cooperation with King Abdul Aziz University in Jiddah. Although foreign training for upper level professional personnel will still be required, this School will provide the necessary lower level personnel.

Work rules should be revised: incentives to encourage personnel to work in isolated areas are needed as well as revised rules concerning assignment to those posts.

Financial Allocations

Recurrent expenditure for the Plan will be SR 55 million. Project costs will total SR 19 million, making the total cost for the period, SR 74 million. Detail concerning these costs is shown in Table 54.

TABLE 54

FINANCIAL ALLOCATIONS FOR METEOROLOGY
(SR Millions)

	Recurrent	Project	Total
Operation and Maintenance of Existing Facilities by the Department	24.4	—	24.4
World Weather Watch Program	10.6	10.2	20.8
Air Force and Civil Aviation Support	3.5	4.6	8.1
Establishment of Agrometeorological Division	0.1	—	0.1
Establishment of Weather Stations at Mecca, Minna, Riyadh and Tayif	0.4	1.0	1.4
Climatological Data Processing	0.4	0.2	0.6
Training	13.1	0.5	13.6
Establishment of National Meteorological Center	2.5	2.0	4.5
Total	**55.0**	**18.5**	**73.5**

POSTAL SERVICES

The efficiency and reliability of the Postal Services and the range and availability of its services must be improved before it can contribute fully to the Kingdom's communications network and to development. The Service is now handicapped by administrative problems, antiquated methods and buildings, and inadequately trained and motivated staff.

Objectives and Targets

The objective of the development program is to improve the service by administrative changes, introduction of new equipment and methods, construction of some new post offices, and improved personnel practices. These improved practices are expected to improve mail service without increases in expenditures on operations and maintenance, including new projects, proportionate to the increase in the volume and revenues.

Postage rates for foreign mail are comparable with those of other countries. It is desirable for social and political purposes to maintain intra-Kingdom postal rates at as low a level as possible. Rates for internal mail are relatively low and it is proposed to maintain them at this general level for the period of the Plan. Thus rate changes are not proposed for the period except perhaps in such isolated instances as registration fees, parcel rates, etc.

The volume of mail is expected to continue to increase by about 10 percent annually. Revenues and expenses will also increase. The planned target of the Postal Service is to improve productivity so that the increase in mail volume can be handled without an increase in the annual deficit of revenues in relation to recurring expenditures. This modest goal is considered to be realistic in view of present conditions in the Postal Service.

Programs and Projects

The program consists of 34 projects of which 10 represent operational improvements, 5 are training programs, 5 represent new buildings and the remainder consists of proposed improvements in public relations and administration.

Administration

1. The Postal Services headquarters is in Riyadh but the accounting and statistical office is in Mecca. All should be located in Riyadh if the Postal Services is to function efficiently.
2. Posts and telecommunications are sufficiently differentiated to be operated separately; bifurcation of the two is anticipated early in the plan period.
3. A project office should be established to implement the Postal Services program.
4. Studies and projects will be undertaken to improve financial operations, such as revising the system of providing money order service, tendering for postal stores and record keeping.

Operations

1. The current practice of registering governmental mail should be revised so that only the most important documents are registered.
2. Postage franking machines, which reduce use of stamps and decrease postal work load, should be introduced.
3. Billing of governmental agencies should be simplified.
4. A joint study with Saudi Arabian Airlines should be made to determine the feasibility of carrying inland mail at one rate to regional airports for dispatch by surface transport to addressee.
5. Joint studies should be undertaken with Customs, the Ministry of Information and the Security Services to determine more expeditious methods of processing mail.
6. Methods of processing various types of mail, including possible mechanization, should be studied and revised as feasible.
7. There is a need to standardize the sizes of envelopes used in the Kingdom.
8. Statistical and accounting procedures should be modernized.
9. Methods of selection, distribution and sale of stamps should be improved.
10. The use of mobile post offices should be given a trial.

Personnel and Training

1. Qualifications of personnel, pay scales, recruiting methods and methods of forecasting personnel needs should be thoroughly reviewed.
2. Recruitment of full-time Arab expatriate staff will be necessary as an interim measure.
3. Training will occupy an important role in the program. Included are plans to:
   a. Send 10 middle level officials to the United Kingdom for training;
   b. Establish a National Postal School in Riyadh and regional schools where relevant; and,
   c. Train all postal clerks to read addresses in the English language.

Buildings

1. New post office buildings are planned for Riyadh to replace a rented building, and for Jiddah and Dhahran where existing facilities are inadequate. An expansion and improvement of layout is planned for Dammam.
2. It is anticipated that 20 new post offices will need to be established in small communities. It may be feasible to substitute mobile post offices for some of these proposed facilities.

Public Relations

1. Postal facilities should be easily recognizable and a program to standardize color and insignia on all post offices, post boxes, vehicles, uniforms, etc., should be undertaken.
2. The communication media should be used to inform the public about postal services and instruct them in their usage.
3. The philatelic section should be reorganized and philatelic standards should be improved.

Financial Allocations

Based upon available data, projected future expenditures during the period of the Plan will be SR 159 million or SR 41 million in excess of estimated revenues. The total includes SR 146 million for recurrent expenditures and SR 13 million for project expenditures as shown in Table 55.

Improvement of accounting procedures and separation of postal services and telecommunications may result in a significant revision of these estimated recurrent costs and revenues. These data are therefore provisional and some revision of budgetary allocations between postal services and telecommunications may be required when better data become available.

TABLE 55

FINANCIAL ALLOCATION FOR POSTAL SERVICES
(SR Millions)

	Recurrent	Project	Total
Operation and Maintenance of Existing Facilities	138.3	—	138.3
Administrative Improvements	1.8	0.3	2.1
Operations Improvements	1.1	1.2	2.3
Personnel and Training	3.2	3.7	6.9
Building Construction and Improvement	1.0	7.5	8.5
Public Relations Activities	0.1	0.4	0.5
Total	145.5	13.1	158.6

CHAPTER IX

INDUSTRY

The contribution of industry to GDP (see Fig. 30) increased from SR 5,061.1 million (or 58.8 percent of total GDP) in 1382-83 to SR 9,502.6 million (or 60.1 percent of GDP) in 1388-89. The growth rate and the contributions to GDP of the several segments of the industry sector are summarized below:

1. Crude oil exploitation increased at an average annual growth rate of 10.4 percent during 1382-83 through 1388-89, and contributed 46.6 percent to GDP in 1388-89.
2. Petroleum refining increased at an average annnal growth rate of 9.6 percent during 1382-83 through 1388-89, and contributed 6.1 percent to GDP in 1388-89.
3. Contribution of GDP in 1388-89 by the petrochemical and fertilizer industry was insignificant since Saudi Arabia did not initiate this industry until 1389 when the first fertilizer plant came on-stream.
4. Mining and quarrying increased at an average annual growth rate of 14.4 percent during 1382-83 through 1388-89, and consisted mainly of the quarrying of limestone and gypsum for the cement industry, and other materials for the construction industry. In 1388-89, the contribution of quarrying to GDP amounted to 0.3 percent.
5. The contribution to GDP from the basic metal industries was insignificant in 1388-89.
6. Manufacturing, other than indicated above, increased at an average annual growth rate of 11.3 percent during 1382-83 through 1388-89, and contributed 1.9 percent to GDP in 1388-89.
7. Construction increased at an average annual growth rate of 12.1 percent during 1382-83 through 1388-89, and contributed 5.3 percent to GDP in 1388-89.

POTENTIAL FOR DEVELOPMENT

A variety of factors present in the resources of Saudi Arabia combine to present a favorable potential for development. The foreign exchange earnings of oil, for example, provide relatively unconstrained access to means of financing the development of the industrial sector by the importation, as required, of management skills, trained manpower, technology, raw materials, equipment and machinery. Large reserves of petroleum and natural gas have already been discovered, but vast areas of sedimentary geological formations with potential for the discovery of oil and natural gas remain to be explored.

Petroleum and natural gas offer cheap sources of power for industry; they are also the principle raw materials used in the production of petrochemicals and nitrogenous fertilizers. Similarly, rock phosphate is a raw material for fertilizer production, and natural gas can be used in the production of concentrated and pelletised iron ore and in the reduction of iron ore into iron and steel. There is a steadily increasing demand in Africa and Asia, the expected markets for products of the extractive industries, the petrochemical and fertilizer industries, and the iron and steel basic industries.

Both the Pre-Cambrian shield and younger coastal rocks of Western Saudi Arabia have been shown to have important mineral potentials. Not only have many mineral prospects been located, but it has been clearly established that a high proportion of the geological environment merits the long term prospecting which has typified the successful growth of mineral industries in many countries where mining contributes significantly to the gross national product. In addition, detailed explorations of mineral deposits have had a discovery rate for potentially viable deposits which is comparable with world standards in terms of expenditure per discovery.

Growth in per capita incomes, diversification and industrialization of the economy, and growth in service industries are creating expanding domestic demands for industrial products which are now mainly supplied by imports. In addition, the increasing knowledge of the Kingdom's water resources combined with the potential for agricultural production improve the prospects for increasing supplies of foods and by products, some of which will require industrial processing prior to consumption.

Hence the raw materials and market situations both favor prospects of early development of all forms of industry, provided the main constraints on such development can be overcome.

Operation	
1.	
2.	
3.	
4.	

CONTRIBUTION OF INDUSTRY TO GROSS DOMESTIC PRODUCT

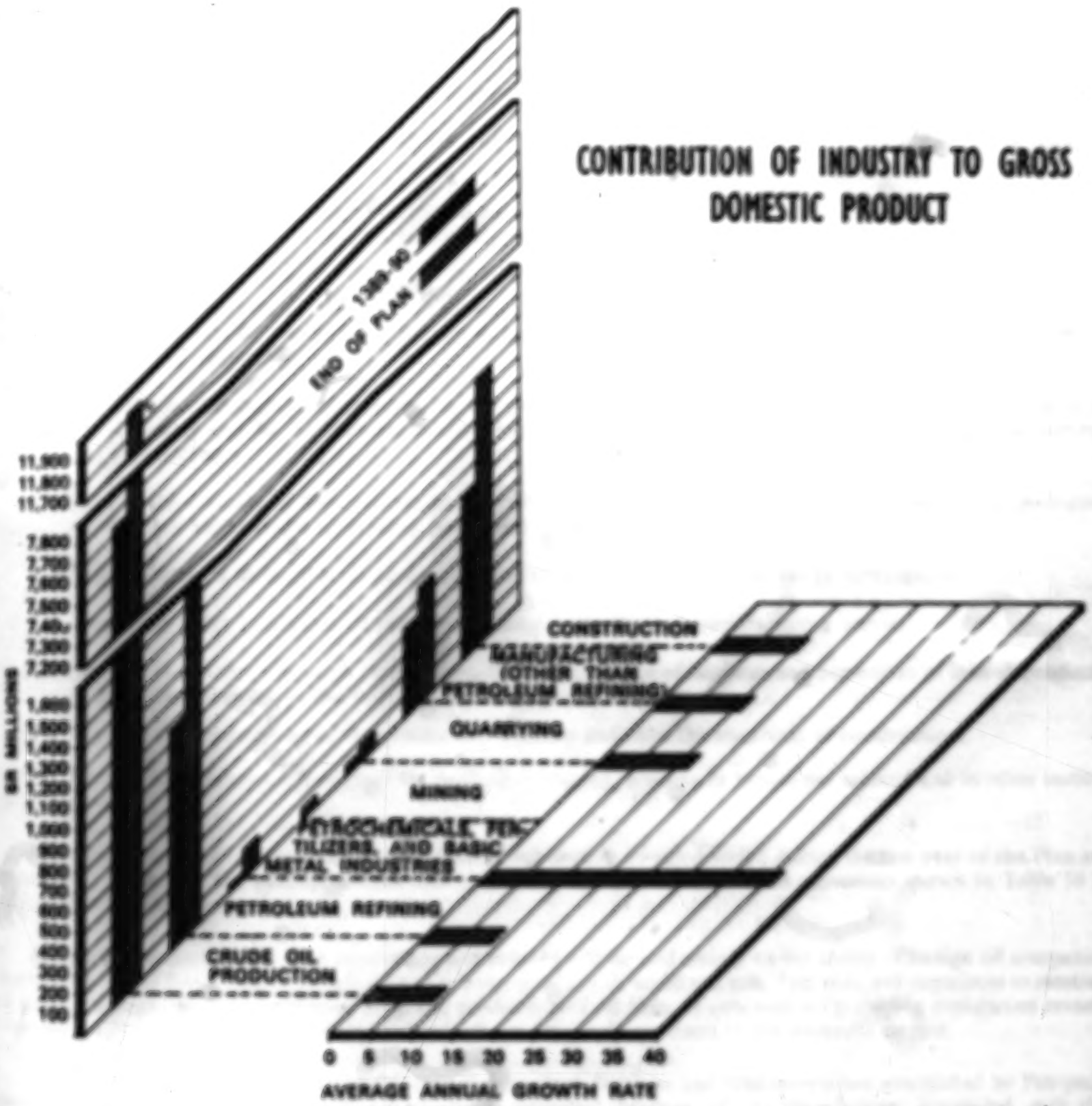


Fig 30

OBJECTIVES AND TARGETS

The main objective of the Plan for industry is to realize — as rapidly as organizational, manpower, technical and financial constraints permit — the known high potential for industrial development, thereby making a major contribution to the growth and diversification of the economy.

Objectives

More specifically the objectives of the industrial development plan are to:

1. Diversify the economic activities to reduce the dependence on petroleum as a major earner of foreign exchange, thereby leading to a more balanced economic activity;
2. Secure regional balanced development of industry consistent with the economic well-being of the Kingdom;
3. Increase the sale of petroleum products and fertilizers, and initiate the sale of petrochemicals and minerals in world markets;
4. Encourage industrial development by announcing an explicit pricing policy for refined petroleum products and natural gas based on the existence of surplus reserves, and supply them to domestic industrial users at actual cost;
5. Promote exploitation of the mineral prospects already identified and investment in exploration of other mineral deposits by encouraging foreign mining companies and national private capital to participate in new mining ventures;
6. Continue accumulating information on the geological characteristics of the areas of mineral potential in the Kingdom and on the occurrence and extent of mineral deposits by proceeding with geological surveys and explorations;
7. Expand the capacity of Government and quasi-Government agencies to assume responsibility for geological surveys and explorations now being performed by foreign missions;
8. Replace imports through local production and thus conserve foreign exchange earnings;
9. Encourage fuller utilization of capacity existing in the private manufacturing sector;
10. Increase productivity through closer approach to optimal size of factories and promotion of inter-dependence of industries, and adopt the principal of integration in their operations;
11. Improve the productivity of the constuction industry and raise the standards of construction;
12. Reduce dependency on foreigners by on-the-job training, training in vocational schools and in other institutions.

The targets for the contributions of the industrial sub-sectors to value added during the last year of the Plan are summarized in Table 56. The average annual rate of increase in value added for the subsectors shown in Table 56 is 9.5 percent during the plan period.

Realization of the targets for oil production and refining will depend mainly on the ability of foreign oil companies to increase the sale of Saudi Arabian crude oil and refinery products in world markets. Petromin will contribute to meeting these targets through its world marketing program, production of oil from its concessions (providing exploration reveals oil in commercial quantities), and from the sale of refined petroleum products in the domestic market.

The target for the contribution to GDP by petrochemical, fertilizer and steel enterprises established by Petromin in partnership with foreign companies is conservatively estimated because of the uncertainties associated with the establishment of such large scale industries. Even so, realization of this target will represent a major achievement.

The characteristics of the mining industry (in particular the time taken to establish productive ventures) make it impossible to set a realistic quantitative target for its contribution to GDP. The target for the contribution of mining and quarrying to GDP is based on expanding quarrying activities for construction and starting the operation of one major mining venture late in the Plan.

TABLE 56

TARGETS FOR THE CONTRIBUTIONS OF THE INDUSTRIAL SUBSECTORS TO VALUE ADDED DURING THE LAST YEAR OF THE PLAN

(Millions of 1386-87 SR)

Subsector	Value Added		Average Annual Rate of Growth
	1389-90	End of Plan	
1. Crude oil production	7,736.6	11,959.1	9.1%
2. Petroleum refining	1,064.3	1,649.6	9.1
3. Petrochemical, fertilizer, and basic metal industries	30.0	140.0	36.3
4. Mining	—	50.0	N.A.(a)
5. Quarrying	43.6	75.1	11.5
6. Manufacturing other than 1 and 2 above	334.7	562.1	10.9
7. Construction	790.1	1,297.8	10.4
Total, Industry	**9,999.3**	**15,733.7**	**9.5%**

(a) *N.A. — Not Applicable*

Source : C. P. O.

The target set for manufacturing industries other than those mentioned above is based on study of the opportunities in the manufacturing sector. Realization of these opportunities can be influenced by Government policies, but will depend mainly on the enterprise of the private sector.

The target for the contribution of the construction industry to GDP is based on the construction requirements of other sectors of the Plan, allowance being made for the need for construction to occur before programs in these sectors start to yield additional output.

Targets

Targets relating to the principle objectives of the Plan have been set or identified below, subject, when appropriate, to the conclusions reached in feasibility studies and the participation of foreign investors.

The targets for the Plan for industry are summarized in the following:

First year

The following activities will be completed by the end of the first year of the Plan:

1. Approval and publication of a statement of National Industrial Policy for the encouragement of industrial production;
2. Publication of the Regulation for the Protection and Encouragement of National Industries as revised in the light of the above National Industrial Policy;
3. Establishment of an industrial bank;
4. Announcement by Petromin of a pricing policy for petroleum products for domestic consumption designed to encourage industrial enterprises;
5. Provision of Petromin with a capital structure and company organization framed to increase its effectiveness in establishing industrial enterprises in partnership with foreign and national private capital;
6. Implementation of Petromin's projects for the Jiddah lubrication oil blending plant and the bulk plants at Mecca, Jaizan, and Qasim;

7. Establishment of a Project Evaluation Department in Petromin;
8. Revision and publication of the Mining Code;
9. Mapping and publication of geological maps and supporting texts covering 50,000 square kilometers of the Pre-Cambrian shield (this is a continuing annual target);
10. Conclusion of negotiations with foreign mining companies regarding the deposits at Jabal Sayid (copper, gold, silver, zinc), Nugrah (lead, zinc, and copper), and Adhbat (iron pyrites);
11. Preparations in the DGMR for establishment of a Cost Control Unit and a Data Services Department, and transference of the functions and activities of the present Chemistry Department to the two laboratories belonging to the foreign missions;
12. Performance of at least two major feasibility studies for high priority manufacturing projects by the ISDC (additional feasibility studies at the same rate during each succeeding year);
13. Publication of a guide for industrial investors;
14. Realization of the planned industrial estates in Riyadh and Jiddah;
15. Strengthening of the competence of the Ministry of Commerce and Industry to review the feasibility analyses required from private enterpreneurs seeking encouragement for new industrial undertakings;
16. Review of effects of labor legislation, land registration practices, and other factors influencing the productivity of the construction industry, and formulation of appropriate measures.

Second Year

The following activities will be completed by the end of the second plan year:

1. Establishment of the National Trading and Marketing Company by Petromin;
2. Implementation of Petromin projects for Khamis Mushayt and Tabuk bulk plants, sulphuric acid plant and expansion of Jiddah steel mill;
3. Establishment of a management training center by Petromin for high-level Petromin personnel;
4. Preparation of a magnetism map at a scale of 1:2,000,000 in coordination with the Aerial Survey Department;
5. Definition of Pre-Cambrian formations by type, area and composition to depict mineral bearing horizons;
6. Integrated study of the northwest area of Saudi Arabia to develop data on mining of the Thaniyat phosphate deposits, the Wadi Sawawin iron ore deposits, the Aqaba gypsum deposits, and utilization of natural gas;
7. Creation, subject to a feasibility study, of a quasi-government company for mineral exploration to extend the work of DGMR and to participate with foreign companies in joint exploration ventures;
8. Realization of the planned industrial estate in Dammam;
9. Establishment of a management training unit in ISDC;
10. Formation of a committee at ISDC to make suggestions for promotion of industrial productivity to the responsible authority.

Third Year

The following activities will be completed by the end of the third plan year:

1. Implementation of the Petromin projects for Riyadh refinery, Abqaiq sulphur plant, Uthmania-Riyadh gas pipeline, and expansion of Jiddah refinery;
2. Preparation of a second-order gravity net in coordination with the Aerial Survey Department;
3. Additional exploration of first priority mineral deposits at al-Amar (gold, cooper and zinc), Wadi Fatima (iron ore), ar-Rokhan (magnisite), and Jabal Dhaylan (lead, zinc and cooper);
4. Replacement of the present Mines Department of DGMR by an Inspectorate of Mines that will advise the Minister of Petroleum and Mineral Resources on terms and conditions for mining concessions and mining regulations and subsequently be responsible for their enforcement;
5. Establishment of national building codes and materials specifications and standards.

Remainder of Plan

The following activities will be completed during the remainder of the Plan:

1. Implementation of the Petromin project for phosphate mining and potash production;
2. Examination of basic metals in Tertiary formations and Pre-Tertiary sedimentary rocks and discovery of additional mineral resources;
3. Investigation of metalliferous possibilities of granitic rocks;
4. Implementation of Petromin projects for gypsum mining, an ammonia plant, an aluminum plant, a petrochemical complex and a phosphoric acid plant;
5. Geochemical investigation of acid intrusive rocks which may lead to discovery of disseminated copper and molybdenum deposits;
6. A regional study of basic and ultra-basic rocks as possible hosts for nickel and asbestos;
7. Preparation of summary reports with 1:500,000 maps covering rock units containing sulphide and heavy metal occurrences;
8. Intensive mapping, and geochemical and geophysical surveys of location of metals for which a world demand exists (for example, copper, gold and silver);
9. Research on the nature of the Tertiary Red Sea mineralization and the geological environment of the circular magnetic structure to elucidate the modes of mineralization and to guide future exploration;
10. Establishment of an exploration team in the deep mineralized area of the Red Sea with a very limited budget;
11. Transfer of all activities and responsibilities currently undertaken by foreign missions to DGMR;
12. Study of the feasibility of establishing industrial estates in addition to those already being constructed in Riyadh, Dammam and Jiddah.

PROGRAMS AND PROJECTS

The industrial development plan provides for action in many different areas.

Petroleum

Exploration and Concessions

Exploration for oil under existing concessions to foreign companies and Petromin will continue, and new concessions will be granted.

Production and Refining for Export

Development of the means of production of crude oil and refinery products for export will depend on three factors:

1. The success achieved by foreign oil concessionaires in expanding the share of Saudi Arabian oil and refined products in world markets;
2. The outcome of explorations carried out by foreign companies under concessions granted to Petromin;
3. The success achieved by Petromin in marketing crude oil produced by foreign companies in markets not served by these companies, and in marketing oil discovered in its concessions under the terms of its agreements with the companies that operate these concessions.

Supplying the Domestic Market

The demand for refined petroleum products is forecast to almost double in the Western Province by the end of the Plan and to increase by about 70 percent in the remainder of the country. Petromin plans to meet this growth by building a second refinery in Jiddah and a new refinery in Riyadh. The new Jiddah plant is expected to start operation in plan year three when the existing plant will close down. The latter will be re-opened about three years later when demand is expected to exceed the capacity of the new refinery.

The Riyadh refinery is also expected to come on-stream in the third plan year and will serve the Riyadh marketing area, any balance being met from the Ras Tanura export refinery. Forecasts of the consumption of petroleum products by the domestic market and the production of the refineries to meet this demand are shown in Table 57.

TABLE 57

FORECAST OF PRODUCTION FOR DOMESTIC DEMAND AND CONSUMPTION OF REFINERY PRODUCTS

(000 Barrels)

	Production						Consumption					
	Jiddah		Riyadh		Ras Tanura		W(*a*)		E.C.N.(*b*)		Total	
	1970	End of plan	1970	End of plan	1970	End of plan	1970	End of plan	1970	End of plan	1970	End of plan
L.P.G.	33	500	—	310	560	636	149	446	444	1,000	593	1,446
Motor gasoline	752	3,000	—	2,250	3,423	1,654	1,972	3,451	2,203	3,453	4,175	6,904
Kerosene	436	800	—	436	541	192	514	828	463	600	977	1,428
Aviation fuels	—	1,300	—	—	—	—	620	1,246	445	966	1,065	2,212
Diesel fuels	690	3,150	—	1,612	3,125	2,607	1,847	3,681	1,968	3,688	3,815	7,369
Fuel oil	1,200	1,160	—	—	—	825	669	1,160	510	825	1,179	1,985
Asphalt	—	300	—	—	N.A.(*c*)	N.A.	88	142	N.A.	N.A.	N.A.	N.A.

(*a*) *W — Western Province*

(*b*) *ECN — Eastern, Central and Northern Provinces*

(*c*) *N.A. — Not available*

Source : Petromin/CPO

Crude oil will be shipped to the Riyadh refinery by rail from Khurais; the Jiddah refinery will be supplied by tankers from Ras Tanura. Petromin will build new bulk plants in Tabuk, Jaizan, Khamis Mushayt and Qasim to improve the distribution of refined products.

An agreement has been concluded between Petromin and a foreign company to establish a lubricating oil blending plant on the Jiddah industrial site. Base-stocks will initailly be shipped from abroad and from Ras Tanura. The plant will later undertake the local production of base-stocks. The decision to establish a lubricating oil blending plant was based on an analysis of the increasing demand for lubricating oil in Saudi Arabia: in 1387-88 over 150 thousand barrels of lubricating oil were imported, but consumption from Ras Tanura (the only domestic producer) was about 20,000 barrels.

The new blending plant will be operational by 1390-91 with an expected annual production of 71,000 barrels. A comparison of production with expected demand (Table 57) discloses that Saudi Arabia will still produce insufficient lubricating oil to meet the demand through the end of the Plan when the Jiddah plant will probably need to be expanded to meet the demand.

Petromin plans to construct a pipeline from Uthmania to Riyadh to supply natural gas for domestic and industrial consumption. The pipeline will have an initial capacity of 19 million cubic feet per day but this can be increased to 70 million cubic feet per day. It is expected to come into operation in 1393.

Petrochemicals and Fertilizers

Petromin is undertaking studies and preparing plans for production of the following products:

Sulphur

A joint stock company has been set up with Jefferson Lake Sulphur Company to establish a plant for the extraction of sulphur from crude oil in Abqaiq. It is expected to start operating late in the second plan year and to produce 190,000 metric tons of flake sulphur in its first year of operation. Its full capacity will reach 225,000 metric tons annually. Jefferson Lake Sulphur Company will market the sulphur internationally.

Sulphuric Acid

A sulphuric acid production plant is being constructed at the Petromin industrial site in Dammam. It is expected to start operation in the first plan year and to produce 16,500 metric tons of sulphuric acid annually at full capacity. (The production of sulphuric acid from gypsum is mentioned under "Mineral Resources, Exploitation").

Petrochemical Intermediates

An agreement was reached with ANIC-PHILIPS in 1386-87 to establish a plant in Dammam for the production of ethylene (182,000 metric tons annually), propylene (96,000 metric tons annually), butadiene (10,000 metric tons annually) and other by-products from the Abqaiq natural gas fields. The feasibility of this project is still being examined, but it is anticipated that production will start by the end of the Plan. ANIC will be responsible for marketing these products internationally. This project is linked to the AGIP joint oil exploration venture.

A second petrochemical project for the production of liquified natural gas, petrochemical feedstocks and polyethylene vinyl chloride is being considered.

Ammonia

A project for the production in Dammam of 330,000 metric tons per year of anhydrous ammonia from natural gas is being evaluated.

Urea

The possibility of expanding the SAFCO urea plant in Dammam or of establishing a second plant will be studied as part of the Plan.

Phosphoric Acid

Production of phosphoric acid from rock phosphate is being studied (see the section headed "Mineral Resources").

Potash

A project for the evaporation of sea water at Tarut Bay is being studied. Such a plant could produce potash (100,000 metric tons annually) during the first stage and subsequently magnesium (20,000 metric tons) with chlorine (56,000 metric tons) and salt (1 million metric tons) as annual by-products.

Mineral Resources

Surveying and Exploration

Projects to be carried out by DGMR* and the related agencies (USGS, BRGM, JGS, ARGAS, ADC and SAMEX*) may be classified as either "geological mapping and related work" or "mineral exploration." The former consists of geological mapping, basic geological research, marine geology, geophysics, publications, and data systems; the "mineral exploration" program encompasses the location of mineralized areas, investigation of selected occurrences, and mineral research.

Geological Mapipng. The aim of geological mapping is to prepare and publish maps of the Pre-Cambrian shield and adjacent areas on a regional geological basis at a scale of 1:100,000 supported by texts on the geology and mineral resources of the area, and incorporating both laboratory and basic geological data. This work will consist of about 60 sheets (each covering one degree) and representing an area of 720,000 square kilometers. This project will take more than 12 years to complete at an annual output representing 50,000 square kilometers, (see Fig. 31).

Basic Geological Research. A necessary complement of mapping in basic geological research is to define the Pre-Cambrian formations by type, area and composition in accordance with international usage. One of the ultimate benefits of this basic research is the definition of mineral-bearing horizons.

Early attention will also be given to geochemical investigations of the acid intrusive rocks, which may lead to discovery of disseminated copper and molybdenum deposits; a regional study of the ultrabasic rocks as possible hosts for nickel and asbestos; and an investigation of metalliferous possibilities of granitic rocks.

DGMR intends to seek the assistance of doctoral candidates in foreign universities for the performance of this research.

Marine Geology. Internationally, the Red Sea is an area of great academic interest; thus substantial research by DGMR would enhance the Kingdom's scientific reputation. DGMR proposes to establish an exploration team in the deep mineralized areas on a minimum budget before the end of the Plan.

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* *DGMR, Directorate General of Mineral Resources; USGS, United States Geological Survey; BRGM, Bureau de Recherches Geologiques et Minieres; JGS, Japanese Geological Mission; ARGAS, Arabian Geological and Surveying Co.; ADC, Arabian Drilling Co.; and SAMEX, Saudi Arabian Mineral Exploration Co.*

GEOLOGICAL MAPPING PROGRAM

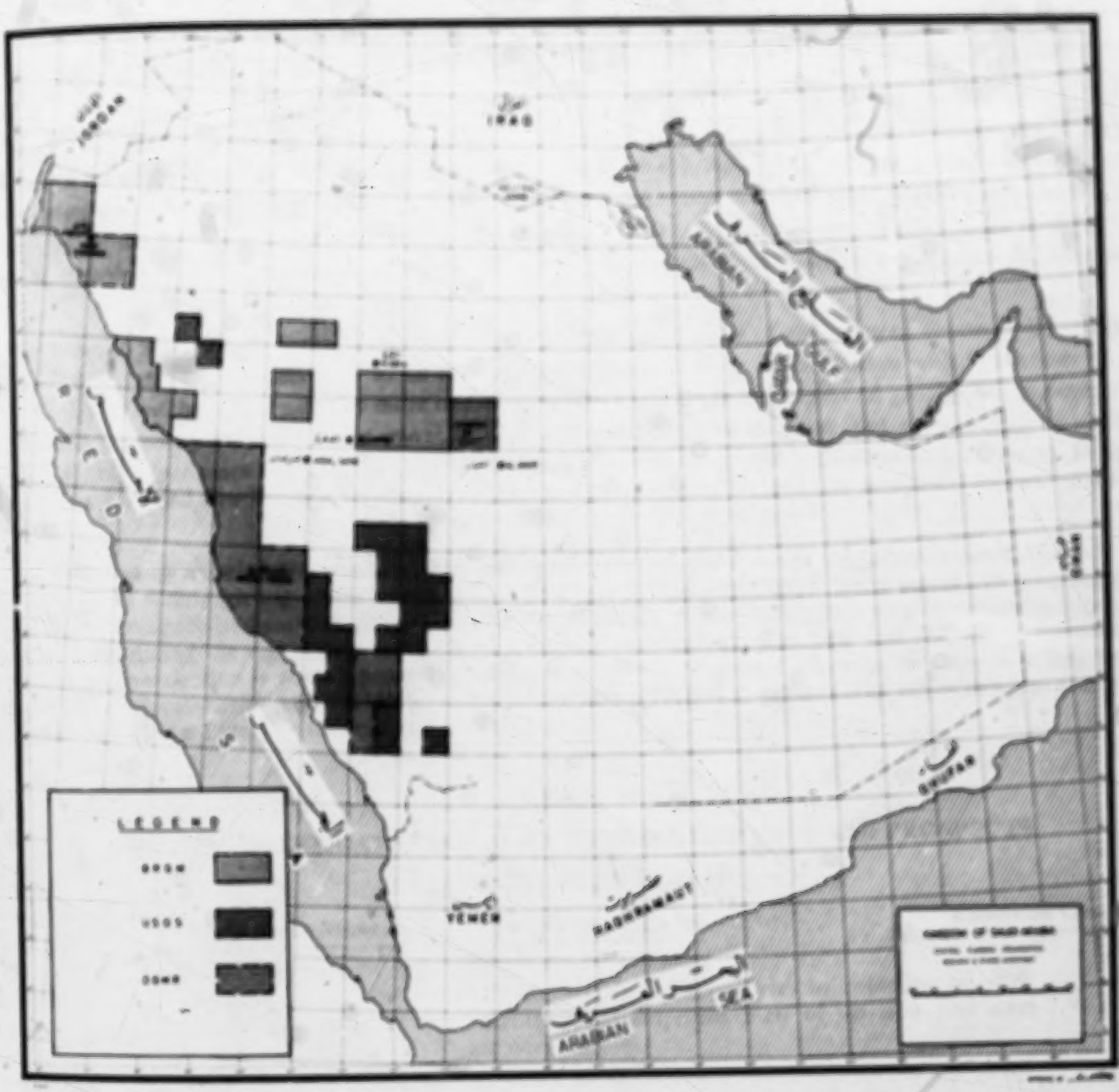


FIG. 31

Geophysics. Proposed work in geophysics includes the collection of all available regional geophysics information; the preparation of summary reports with 1:500,000 maps covering rock units containing sulphide and heavy metal occurrences; the establishment of a second order gravity net; and the preparation of a magnetism map at the scale of 1:2,000,000. These activities will be coordinated with the Aerial Survey Department, particularly with respect to the establishment of the gravity net. Analyses of these geophysical data will help establish criteria for future mineral prospecting.

Publications. Publishing the results of the work of the Directorate General and its contractors will accomplish several objectives:

1. Place the data on permanent record;
2. Focus overseas attention on the Kingdom's geological background and mining potential; and,
3. Impose an exacting intellectual discipline on all geologists.

Data Systems. Systems for collecting, storing, and retrieving technical data on mineral resources are of the utmost importance to the development of the Kingdom. Two types of data are involved: raw data, such as field notes and geophysical observations; and processed data, such as reports and maps. Collection will start as soon as possible and will include the data held by the missions. Storage includes indexing functions which will be oriented toward the computer of the College of Petroleum and Minerals at Dhahran. Retrieval will include dissemination of technical information.

Location of Mineralized Areas. Regional mapping has located most of the exposed copper, gold, silver, lead, and zinc. The mineral occurrences tend to be concentrated in certain areas in association with formations of specific rocks. These areas will be investigated by more intensive mapping and by geochemical and geophysical surveys as guided by anticipated future world demand for minerals. (For instance, intensive mapping and surveys may be justified for copper, gold, and silver since demand for these minerals is expected to double within the next 15 years). In addition, Tertiary formations and Pre-Tertiary sedimentary rocks will be examined for possible additional mineral resources.

Investigation of Selected Occurrences. The selection of certain occurrences for further examination will depend on evaluations of visible geology, geochemistry and geophysics; and experience. Occurrences are continually being reviewed and a prospect is discarded as soon as it appears clearly uneconomic. Successful investigations present the problem of determining the right stage at which to terminate examination. The best time for the government agency to terminate an investigation is when a prospect first shows economic promise if a foreign company is willing to assume the prospect on exploration licenses. DGMR's present intentions for further investigation of major deposits and prospects through the end of the Plan are summarized in Table 58.

TABLE 58

FURTHER INVESTIGATION OF MAIN MINERAL DEPOSITS AND PROSPECTS DURING THE PLAN PERIOD

Name of Deposit	Elements or Minerals	Further Investigation	Estimated Cost (SR 000)
al-Amar	gold, copper, zinc	Underground sampling	1,000
Wadi Fatimah	iron ore	Drilling and re-check analyses in coordination with Petromin's development plan of an iron and steel industry	500
Wadi Sawawin	iron ore	Re-check analyses in coordination with the integrated study of the northwest of Saudi Arabia	500
ar-Rokhan	magnesite	Marketing and feasibility study regarding required infrastructure	500
Thaniyat	phosphate	Processing studies in coordination with the above integrated study	250
Jabal Dhaylan	lead, zinc, copper	Drilling to obtain an exploration guide for further work in coastal areas	600

The need for further investigation of the Wadi Bidah deposits (copper, gold, silver and zinc) and the ash-Shaib deposits (copper, silver and zinc) will be determined after completion of the 1:100,000 mapping of the respective quadrangles. Mapping of these quadrangles should be completed in 1391-92.

The deposits of Jabal Sayid (copper, gold, silver and zinc), Nugrah (lead, zinc and copper) and Adhbat (iron pyrites) were not included in Table 58 because major mining companies have already applied for exploration licenses for these prospects. Negotiations with these companies are expected to be concluded during 1390-91, (see Fig. 32).

Mineral Research. Mineral research falls into two categories: research into prospecting methods, and research directed towards elucidation of the modes of mineralization and guidance for future exploration. DGMR is not planning research into prospecting methods before the end of the Plan. Research planned for individual deposits or groups of deposits will include investigation of the modes of mineralization of several sulphide deposits, examination of the nature of the Tertiary Red Sea mineralization, and analysis of the geological environments of circular magnetic structures. This research will be carried out by doctoral candidates in foreign universities.

Exploitation

Exploitation of mineral resources in Saudi Arabia has been limited to mining of gypsum and limestone by domestic gypsum and cement factories. Future exploitation of minerals other than limestone and gypsum is expected to be undertaken by foreign and domestic organizations, possibly as joint ventures.

Petromin will participate in the development of mineral resources under three separate programs:

1. Feasibility studies for the projects summarized below, particularly by a regional feasibility study on the integrated development of the iron ore, phosphates, natural gas, and gypsum discovered in Northwest Saudi Arabia;

2. Establishment, subject to a feasibility study, of an organization (SAMEX) to undertake and participate in exploration of mineral deposits as described elsewhere; and,

3. Participation with foreign mining companies in ventures shown by exploration to offer prospects for commercial mineral development.

Petromin is investigating the following projects:

1. **Phosphate:** Mining and beneficiation of phosphate rock at West Thaniyat; transport by pipeline to the coast near Aqaba is being considered; production will be 2 million metric tons annually for export; 300,000 metric tons annually of P_2O_5 equivalent for transformation into elemental phosphorous; and 300,000 metric tons annually for phosphoric acid;

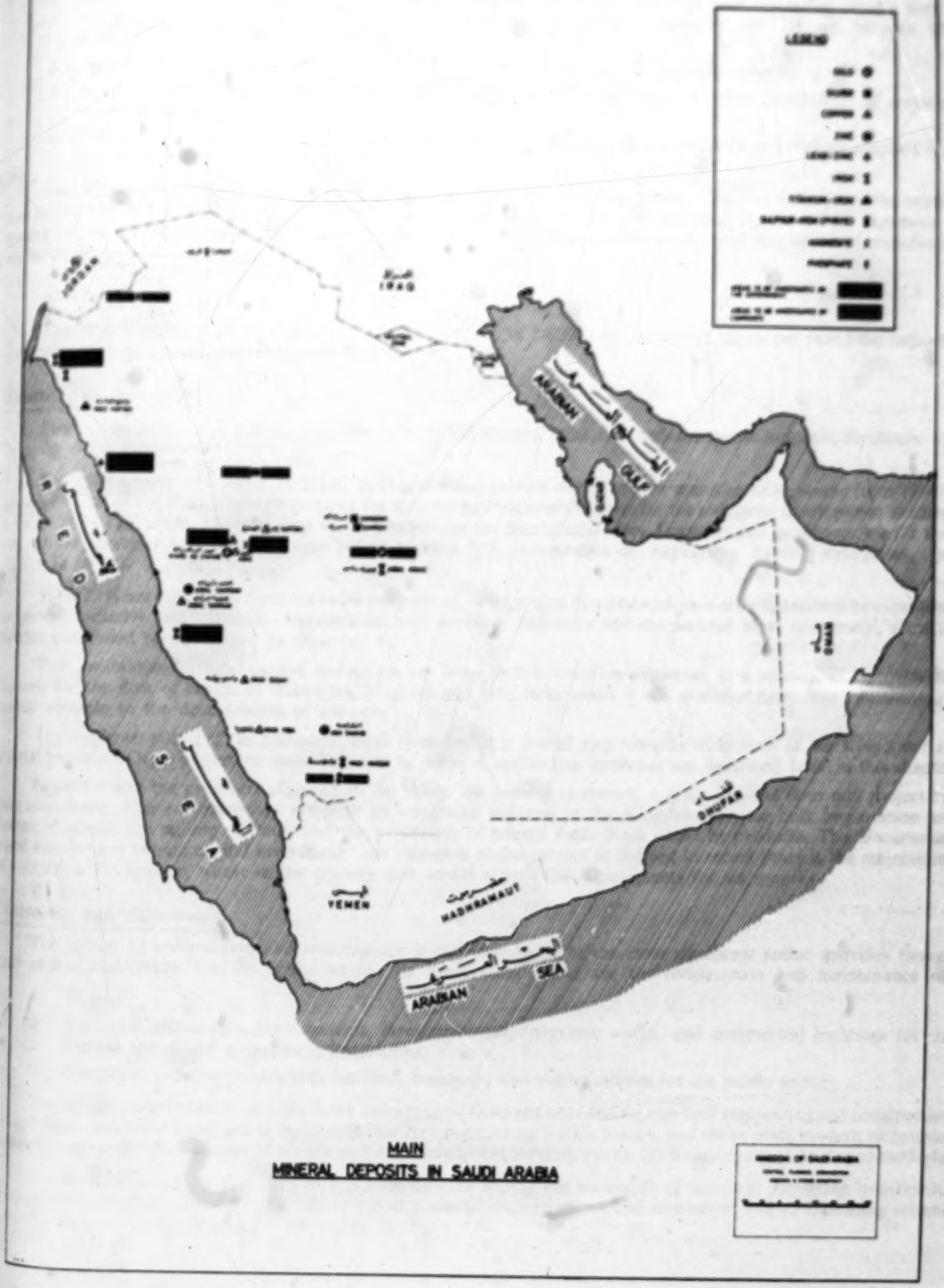
2. **Gypsum:** Mining near Aqaba for the production of sulphuric acid (330,000 metric tons annually) and cement (330,000 metric tons annually);
3. **Copper:** Mining and beneficiation for export of the Jabal Sayid deposit; and,
4. **Iron Ore:** Mining and beneficiation of the deposits located at Wadi Fatimah and Wadi Sawawin for export and for use in the production of steel.

The above projects related to the possibility of phosphate and gypsum mining, as well as the iron ore mining of the Wadi Sawawin deposits, will be part of an integrated study for the development of the northwest of Saudi Arabia.

Basic Metal Industries

Iron and Steel

The development of an iron and steel industry is considered an important step in broadening the base of the Kingdom's economy. A steel rolling mill was established in Jiddah in 1387. Petromin now plans further development of this industry.



MAIN
MINERAL DEPOSITS IN SAUDI ARABIA

FIG - 32

The economic feasibility of developing iron and steel production in Saudi Arabia is based on the following:

1. Domestic demand for steel products (such as structural and pipe steel) has been increasing rapidly both in the private and government sectors. This demand is expected to increase by 300 percent between 1390 and 1400.
2. World market demand for steel products is currently strong and growing steadily.
3. Large iron ore deposits discovered at Wadi Fatimah and Wadi Sawawin offer possibilities of economic exploitation.
4. The energy requirements for iron ore mining and steel production can be freely and cheaply supplied from abundant reserves of crude oil and natural gas.

Petromin plans the development of the iron and steel industries in three phases. The first will expand the existing steel rolling mill at Jiddah so it can run at its full capacity of 45,000 metric tons per year; the second for expansion of this capacity to 100,000 tons per year; the third is the development of an integrated iron ore mining and steel manufacturing industry.

Aluminum

The establishment of an aluminum plant with a capacity of 140,000 metric tons of ingots per year from imported alumina is being discussed with a foreign corporation.

Manufacturing Industries

For the purposes of this document, the term *manufacturing industries* excludes petrochemicals, fertilizers, and the basic metal industries.

Projections have been made by ISDC of the potential growth of the private manufacturing sector from 1390-91 through the end of the Plan. These projections are indicative of the opportunities for the industrial development as shown in Table 59 by ISIC code; however they will not substitute for feasibility studies. Investors will be responsible for their own market surveys and other cost data before making new investments or expanding existing enterprises, (see Figures 33 to 36).

Table 59 is not exhaustive from the technical point of view because directed economic activities cannot be substituted for private initiative and ingenuity. Industrialists will establish industries not enumerated here; conversely, some industries mentioned here may not be feasible.

The possibilities for local capital investment are large in Saudi Arabia: however, it is necessary to provide the channels for the flow of capital to industries. Medium and long term credit is not available here, thus constituting a serious obstacle to the development of industry.

The implementation of the Industrial Bank therefore is a crucial step towards realization of the Kingdom's industrial potential. Other important steps that must be taken to realize this potential are described later in this chapter.

In addition to the prospects expected to be taken by private investors, a grain silo and flour mill project has been considered. This project would establish an integrated industry in the Kingdom for the bulk importation and storage of wheat, the milling of flour, and the processing of animal feeds from wheat by-products. The Government would supplement private capital investment: one objective of the project as defined in recent years is the maintaining of a strategic stockpile of wheat in the country that would supply the requirements for six months.

Construction and Maintenance

The sector of construction and maintenance is considered one of the most significant sector activities though much of it is undertaken for the public sector. Its main components are the construction and maintenance of:

1. Houses;
2. Factories, electricity supply systems, farm structures, irrigation works, and commercial buildings for the private sector and government institutions;
3. Transport and communications facilities, buildings, and public utilities for the public sector.

The construction industry includes many units ranging from national and foreign civil engineering and construction through small contractors engaged in building minor civil engineering works, houses, and shops using modern techniques and equipment, to builders concerned mainly with traditional local building works, often employing undeveloped methods.

The sectoral programs proposed in this Plan call for raising the standards of housing; increasing investments by the private and quasi-government sectors in industry, electricity, agriculture and commerce; and an expanding volume of construction and maintenance for the public sector.

TABLE 59

SOME PROJECTED INDUSTRIES FOR THE PLAN PERIOD

ISIC(b)	Subsectors and Industries	Opportunities	Location
	FOOD AND BEVERAGES		
201	Meat and by-products	A slaughterhouse and meat packing plant capable of producing 1,500 metric tons of meat annually	Mecca-Tayif area
202	Dairy products	Expansion of the al-Khobar, Riyadh and Jiddah manufacturers of milk and milk products as well as establishment of additional plants for the manufacture of ice-cream, yogurt and other dairy products	Mecca, Medina and Buraydah
203	Vegetables, processed and canned	A plant processing and canning 825 metric tons of vegetables annually	Close to areas of vegetable production
203	Tomato paste and juice	An integrated tomato processing industry producing 5,875 metric tons of paste and 600 metric tons of juice per year	Near areas of tomato production
204	Processed fish	Establishment of an additional fishing enterprise for packing and shipping and expansion of existing firm in Dammam	Red Sea coast
205	Polished rice	Rice milling facility capable of producing 3,000 metric tons per year	Eastern Province
206	Biscuits	Manufacture of 520 metric tons of biscuits and crackers annually	Riyadh or Jiddah
207	Date syrup	Date syrup plant capable of processing 5,000 metric tons of dates annually	Eastern Province
209	Macaroni and vermicelli	Plant capable of producing 600 metric tons per year	Riyadh or Dammam
207	Animal feed	Expansion of the animal feed mill in the Eastern Province and the establishment of another one	Western Province
312	Vegetable ghee	Two vegetable ghee processing plants producing 12,000 metric tons per year	Western and Central regions
	TEXTILES AND WEARING APPAREL		
231	Cotton textiles	A mill for the weaving of cotton textiles using imported cotton yarn with an annual capacity of approximately 16 million yards	—
244	Canvas and products	A canvas cloth manufacturing company with an annual capacity of 500,000 meters	Western Province
391	Surgical bandages and supplies	A plant to manufacture annually 125 metric tons of surgical cotton, 1.2 million square meters of bandages and 1 million packets of sanitary napkins	Dammam
	FURNITURE AND FIXTURES		
260	Doors and windows	Expansion of existing manufacturing units	Regionally according to demand
260	Metal furniture	Expansion of existing units	Jiddah and Riyadh
260	Wooden furniture	Expansion of existing units	Regionally according to demand
	PAPER PRODUCTS AND PRINTING		
272	Paper Products	Expansion of existing paper industry to produce 100 million cardboard boxes annually	Jiddah
280	Printing	Expansion of existing establishments	Jiddah, Riyadh and al-Khobar
	LEATHER AND LEATHER PRODUCTS		
291	Skin pickled	A skin pickling plant capable of processing 300,000 sheep and goat skins per year	Jiddah-Mecca
	RUBBER AND PLASTIC PRODUCTS		
360	Tire retreading	Two tire retreading plants with an annual capacity of 20,000 tires	Riyadh-Jiddah
399	Plastic pipes	Expansion or establishment of new plant to manufacture plastic pipes for use in water, sewage and drain, waste and vent systems with an additional annual capacity of 2,000 metric tons	—
	CHEMICALS AND CHEMICAL PRODUCTS		
313	Paints	A paint plant to produce 25,000 gallons per year	Jiddah, Riyadh or Dammam
319	Detergents	Expansion of the existing plant	Jiddah
319	Pharmaceuticals	Production of 200 million tablets per year	Jiddah
	CEMENT AND NON-METALLIC PRODUCTS		
334	Cement	Expansion of existing cement plants (additional capacity 6,000 metric tons)	Jiddah, Riyadh and Dammam
339	Concrete posts	A plant with an annual capacity of 150,000 posts of various sizes	—
330	Ready mixed concrete	Plants for ready mixed concrete with a total annual capacity of 10,000 metric tons	Riyadh, Dammam and Jiddah
	METALS AND METAL PRODUCTS		
342	Aluminum extrusion	A plant to manufacture aluminum extrusions with an annual capacity of 1,500 metric tons	—
350	Gas stoves	Production of 20,000 stoves per year	—
350	Enamelware	Production of trays, dishes, coffee and teapots and ashtrays with a total annual capacity equivalent to 500 metric tons	Jiddah or Dammam
350	Wire mesh and netting	A plant to manufacture wire mesh with an annual capacity of 1,500 metric tons	Jiddah or Dammam
	MACHINERY, APPLIANCES AND MAINTENANCE		
360	General purpose foundry	Expansion of existing units with an annual capacity of 6,000 metric tons	Riyadh, Jiddah and Dammam
360	Air conditioners, refrigerators and refrigerator cases	A plant to produce 6,000 units of air conditioners, refrigerators and refrigerator cases per year	Jiddah or Dammam
370	Electric fans	A plant with an annual capacity of 10,000 units	—
370	Electric wires	A plant to produce 120 metric tons of insulated wire per year	Jiddah
370	Dry cell batteries	A plant to produce 3 million units per year	—
	TRANSPORT EQUIPMENT, SUPPLIES AND REPAIRS		
381	Boats	Expansion of the four existing establishments in the western region	Jiddah
383	Wood-stake truck bodies	A plant to produce 2,000 bodies annually for installation on trucks varying in capacity from 2 to 7 tons	Jiddah
385	Bicycles	A plant to produce annually 12,000 bicycles	Jiddah or Dammam
370	Automobile batteries	A plant to produce 24,000 batteries per year	Dammam
	UNCLASSIFIED INDUSTRIES		
332	Glass bottles	A plant to produce 20 million bottles per year	—
370	Electric light bulbs	A plant with an annual capacity of 11 million bulbs	—
		TOTAL REQUIRED CAPITAL	

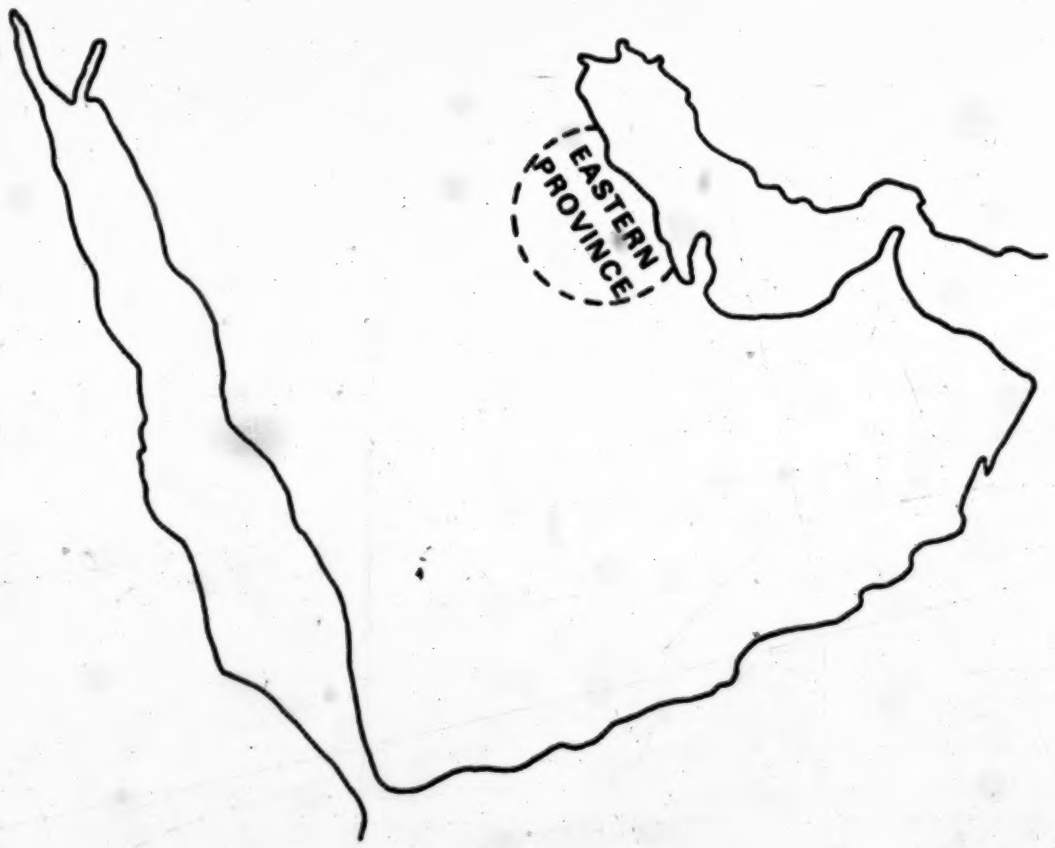
(a) Including working capital.
(b) International System of Industrial Classification.

Source: ISDC.

INDUSTRY IN THE EASTERN PROVINCE

Some Projected Industries For The Plan Period

(Cost in SR Millions)



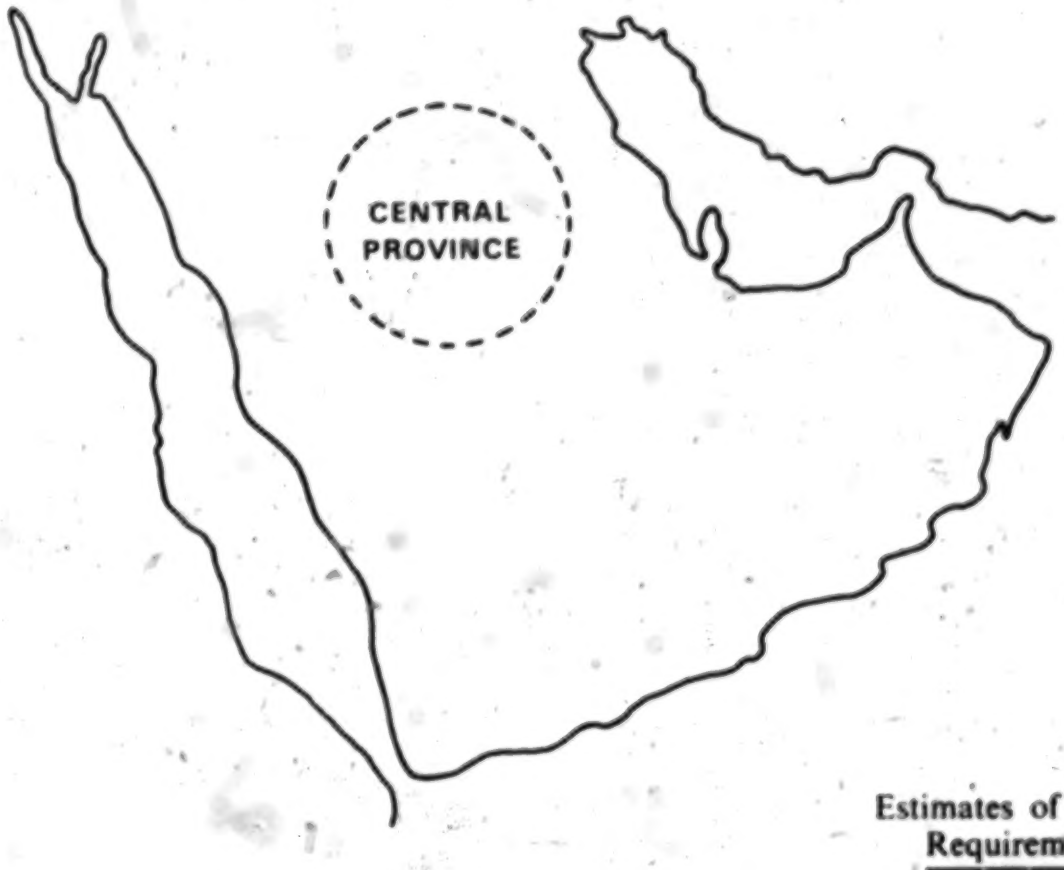
	Estimates of Capital Requirements
A plant to manufacture wire mesh with an annual capacity of 1,500 metric tons.	1.7
Expansion of the existing cement plant.	25.0
A plant to manufacture annually 125 metric tons of surgical cotton, 1.2 million square meters of bandages and 1 million packets of sanitary napkins.	1.5
Expansion of existing printing establishments.	3.0
Expansion of the existing fishing firm.	0.4
A plant for ready mixed concrete with an annual capacity of 10,000 metric tons.	0.7
A date syrup project with an annual capacity of 5,000 metric tons.	2.7
A rice milling facility capable of producing 3,000 metric tons per year.	1.1
A plant for processing and canning 825 metric tons of vegetables annually.	2.6
Expansion of the existing foundry units with an annual capacity of 6,000 metric tons.	0.6
A plant for electric fans with an annual capacity of 10,000 units.	0.7
A plant to produce 24,000 automobile batteries per year.	1.2
A plant to produce 20 million bottles per year.	6.8
A plant to produce 150,000 concrete posts of various sizes annually.	1.3

Fig. 33

INDUSTRY IN THE CENTRAL PROVINCE

Some Projected Industries For The Plan Period

(Cost in SR Millions)



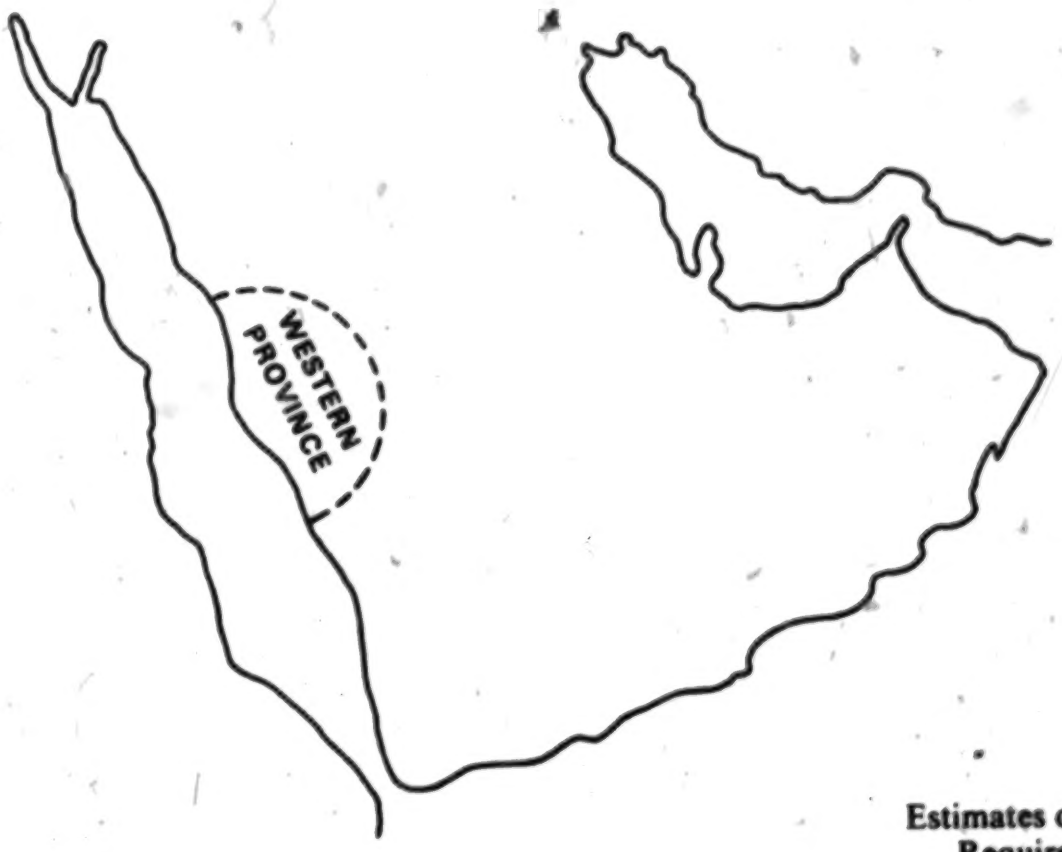
	Estimates of Capital Requirements
A plant to produce 120 metric tons of insulated wire per year.	0.6
A plant to manufacture aluminum extrusions with an annual capacity of 1,500 metric tons.	12.5
A paint plant to produce 25,000 gallons per year.	0.8
A plant for ready mixed concrete with an annual capacity of 10,000 metric tons.	0.7
Manufacture of 520 metric tons of biscuits and crackers annually.	1.3
Plant capable of producing 600 metric tons per year of macaroni and vermicelli.	1.1
A vegetable ghee processing plant producing 12,000 metric tons per year.	4.9
A mill for the weaving of cotton textiles using imported cotton yarn with an annual capacity of approximately 16 million yards.	24.4
Expansion of the existing printing establishments.	3.0
A tire retreading plant with an annual capacity of 10,000 tires.	0.3
Expansion or establishment of a new plant to manufacture plastic pipes for use in water, sewage and drain, waste and vent systems with an annual capacity of 2,000 metric tons.	2.9
Expansion of the existing cement plant.	25.0
A plant to produce 150,000 concrete posts of various sizes annually.	1.3
Production of 20,000 gas stoves per year.	0.6
Expansion of existing foundry units with an annual capacity of 6,000 metric tons.	0.6
A plant to produce 3 million units of dry cell batteries per year.	3.2
A plant for processing and canning 825 metric tons of vegetables annually.	2.6

Fig. 34

INDUSTRY IN THE WESTERN PROVINCE

Some Projected Industries For The Plan Period

(Cost in SR Millions)



	Estimates of Capital Requirements
A plant to produce 2,000 units of wood-stake truck bodies annually.	1.8
Expansion of the four existing boat manufacturing establishments.	2.3
A plant to produce 600 units of air conditioners, refrigerators and refrigerator cases per year.	3.7
Expansion of the existing foundry units with an annual capacity of 6,000 metric tons.	0.6
Facility for packing and shipping fish.	10.3
Expansion of the existing paper industry to produce 100 million cardboard boxes annually.	3.4
Expansion of the existing printing establishments.	3.0
A slaughterhouse and meat packing plant capable of producing 1,500 metric tons of meat annually.	3.3
A plant for ready mixed concrete with an annual capacity of 10,000 metric tons.	0.7
Expansion of the existing plant for the production of detergents.	6.0
A canvas cloth manufacturing plant with an annual capacity of 500,000 meters.	1.9
A skin pickling plant capable of processing 300,000 sheep and goat skins per year.	2.1
Production of 200 million drug tablets per year.	3.2
Expansion of the existing cement plant with an additional capacity of 6,000 metric tons.	25.0
A plant to produce 150,000 concrete posts of various sizes annually.	0.5
A plant for the production of enamelware with an annual capacity of 500 metric tons.	2.5
A plant to produce 12,000 bicycles annually.	1.0
A plant to produce 11 million light bulbs annually.	2.2

Fig. 35

INDUSTRY IN THE SOUTHERN PROVINCE

Some Projected Industries For The Plan Period

(Cost in SR Millions)

	Estimates of Capital Requirements
A plant for processing and canning 825 metric tons of vegetables annually.	2.6
An integrated tomato processing industry producing 5,875 metric tons of paste and 600 metric tons of juice per year.	6.1

Fig. 36

Implementation of these programs is expected to require an increase in the volume of construction over the period of the Plan at an average rate of 10.4 percent annually. This requires increasing the productivity and efficiency of the sector of construction and maintenance such that it will give rise to the appropriate level which allows the dependence of the other sectors on it.

Problems confronting the construction industry were surveyed and it was found that the shortage of skilled manpower is the most significant of all problems.

These problems are summarized in the following:

1. Lack of discipline amongst constructors;
2. Forms of contract and provisions for changes in contracts that are not clearly defined and therefore create difficulties for both contractor and client;
3. Time-consuming procedures for the registration and transfer of ownership of land;
4. Customs and passport procedures;
5. Need for an up-graded national building code and material specifications and standards.

Based on the above, the Ministry of Commerce and Industry, in cooperation with other concerned government agencies, will propose measures to resolve such problems and what is listed under, or stems out of them during the first year of the Plan.

During the second year of the Plan, the Ministry, in coordination with the Public Works Department, will introduce an up-graded national building code and define the specifications and standards for selected materials applicable to the construction industry.

IMPLEMENTATION

Encouragement of Industrial Enterprise

The publication of a statement of a National Industrial Policy is proposed to inform the industrial, commercial and financial interests, both here and abroad, of the Government's stand on key issues of industrial development policy. A draft has been prepared for consideration by the Council of Ministers. It states that the Government desires to encourage the establishment and expansion of industry, and regards the competitive market as the best means of assuring that entrepreneurs are guided into nationally beneficial activities. The draft statement outlines the following forms of encouragement:

1. The Government will supply available information to investors and industrialists, such as results of industrial surveys, feasibility studies and similar economic data.
2. Imported equipment and raw materials for industry will continue to be duty-free.
3. Tariffs will be established whenever sufficient economic and social causes exist to protect domestic industries from comparable imported finished products.
4. The Government, whenever rational justification exists, will partially subsidize training for Saudi employees.
5. Land will be provided in industrial estates and elsewhere at nominal rentals.
6. Tax holidays will be offered for company income.
7. Low-cost loans and operating subsidies will be made available under certain conditions.
8. The Government will give preference to locally manufactured products in its purchasing policies.
9. Quantitative restrictions or price control will be avoided except where competition cannot be effective as in the instantce of a natural monopoly.

In addition, the Government will consider joining the Commission for the Settlement of International Disputes which was recently established through the International Bank for Reconstruction and Development to settle controversial issues related to international investments.

Mining industry will be stimulated by the following:

1. Review, and where necessary, revision of the Mining Code and the Foreign Capital Investment Regulation; and,
2. Promotion of joint ventures, on a cost-sharing basis, with foreign mining companies.

These changes are intended to:

1. Attract knowledgeable foreign mining interests;
2. Accelerate the discovery and development of mineral deposits; and,
3. Accomplish more exploration at reduced cost to the Kingdom.

Petromin will be provided with capital and an appropriate organization, as described below, so it can negotiate effectively with foreign companies and attract national private capital. Additional capital, both national and foreign, is needed to implement the enterprises planned by Petromin for the Plan. Foreign capital will also provide access to technology, and managerial and operating skills.

Further encouragement will be offered in the form of an explicit pricing policy for petroleum products and natural gas to be used for domestic industrial consumption. The pricing policy will be based on the cost of production and distribution, thus offering petroleum products at a cost below posted prices.

The pricing policy is in line with current practices in the Kingdom and will be applicable to industries that qualify for encouragement under the Foreign Capital Investment Regulation, the Regulation for Protection and Encouragement of National Industries, and the Mining Code.

It will also apply to electricity and desalination plants provided, with respect to the former, that they adopt rates that pass the benefits of the pricing policy on to their industrial customers.

The introduction to this chapter indicated that early development of industry is possible if certain constraints can be overcome. Some of these constraints are controlled by agencies not directly concerned with industrial development: lack of infrastructure, including power and water supply, and transport and communications; and time-consuming customs and immigration procedures.

Programs related to the above are discussed elsewhere in this Plan.

The Directorate General of Mineral Resources

Foreign technical missions have performed most of the work of DGMR in recent years. During the Plan, such responsibility will be transferred as expeditiously as possible from these missions to the DGMR and exploration to a quasi-government organization to be established under Petromin. Establishment of this organization (provisionally identified as the Saudi Arabian Mineral Exploration Company — SAMEX) is subject to the results of a feasibility study.

By the end of the Plan, all major decision-making and operations should be transferred to the DGMR, leaving contractors, including SAMEX, responsible only for specific activities. These changes will create a strong Directorate, responsible primarily for the implementation of national policy for mineral development and for long-term geological mapping. SAMEX is expected to perform the following functions:

1. Complete more detailed mapping and investigation of the mineralized areas and occurrences;
2. Review geophysical works performed by the Arabian Geophysical and Surveying Company (ARGAS);
3. Monitor the drilling program through the Arabian Drilling Company (ADC);
4. Perform, possibly by sub-contract, assessment work, including shaft sinking, bulk sampling, and ore calculations;
5. Arrange for ore-dressing tests and marketing investigations, probably by sub-contract; and,
6. Participate with foreign mining ventures and national private capital in exploration of mineral prospects.

When the stage is ready for a specific mining venture, the DGMR and SAMEX will withdraw in favor of an interested mining company, or Petromin will participate in the establishment of a company to undertake the operation, possibly as a joint-venture with a private mining concern.

Organizational changes proposed for DGMR are:

1. A Cost Control Unit will be established to provide data for use in planning exploration work and in general management.
2. A Data Services Department will be established to compile, store and retrieve data, including information collected by the foreign missions.

3. The present Mines Department will be replaced by an Inspectorate of Mines to advise the Minister on mining concessions and regulations; to prepare permits, licenses and concessions; to examine proposals from mining companies; to inspect mining; and to give advice to potential Saudi operators.

4. The present Chemistry Department will be disbanded and personnel allocated to the two foreign mission laboratories; when these close, one laboratory will pass to DGMR and the other to SAMEX.

Saudi geologists will be trained at the University of Riyadh, the Center for Applied Geology in Jiddah, and foreign universities; young Saudi geologists will be trained on the job by foreign experts on DGMR and SAMEX contracts or belonging to the foreign missions during the period of the Plan.

General Petroleum and Mineral Organization (Petromin)

Petromin is responsible for the development of oil production by national enterprises, the refining and distribution of petroleum products for the domestic market, the establishment of national industrial enterprises for mineral production, petrochemicals and fertilizers, and basic industries, and for the establishment of national companies to provide services for these industries. It acts as a holding company which first initiates enterprises and continues to exercise control over policy and new investment, ensures sound management and supporting services after they are established; the individual entrepreneur retains responsibility for management of all other aspects of his business.

Petromin and its associated enterprises are financed from:

1. Government grants, equity participation, and loans;
2. Equity participation and loan finance from foreign investors;
3. Loans from international financial institutions;
4. Equity raised by sale of shares to the public;
5. Revenue from Petromin's concession for the distribution of petroleum products to the domestic market;
6. Earnings of Petromin equity in associated enterprises; and,
7. Cash flow from projects undertaken by associated enterprises.

Petromin will be provided with a formal capital structure and organization. Petromin will then be able to negotiate more effectively with foreign investors and international financial institutions and to raise private capital more easily. It is therefore proposed to convert Petromin to a joint-stock company with authorized capital of SR 1,000 million and paid-up capital equal to investments already made.

The compelling argument for a capital structure is the confidence it would give to outside lenders in dealing with Petromin. This need not change either the amount or timing of further government investment in Petromin projects, except insofar as a formal capital structure increases the share of financing obtainable from external sources, thereby reducing the need for government finance.

The adoption of a formal capital structure will require transferring to subsidiary companies those industrial and commercial activities at present operated as departments of Petromin. Each of these would have its own management and capitalization.

Other institutional developments proposed for Petromin are:

1. A project evaluation department would be created for project planning, implementation and follow-up.
2. A management workshop would be established for the development of high level personnel; this will be conducted by staff obtained from a business school abroad with an international reputation.
3. An international trading and marketing company would be established to market internationally those products produced by Petromin and its related enterprises, to supply Petromin with data on market trends and profitable products, and to develop markets through general trading until Petromin can supply such products.
4. A Saudi Arabian Mineral Exploration company (SAMEX), as described above, may be established.
5. Petromin will also explore starting an investment finance company as a means of channeling public subscriptions into Petromin projects.

Petromin's policy for manpower development will continue to emphasize training of Saudis within the organization and abroad to fill posts in Petromin and its subsidiaries.

Ministry of Commerce and Industry

The Ministry of Commerce and Industry is considered responsible for:

1. Preparation and implementation of the industrial policy and encouraging the private sector to develop the manufacturing industries other than petrochemicals, fertilizers and the basic metals industry; and,
2. The construction industry.

In addition, the Ministry is empowered to regulate commodity prices and to register private enterprises. The present licensing system stipulates that a license must be obtained by any Saudi enterpreneur who wants to benefit by the available incentives. The Ministry reviews the feasibility of an industrial undertaking prior to granting a license; as a part of the Plan, the Ministry will strengthen its competence to review feasibility analyses. It is proposed to make compulsory the registration of all industrial enterprises; however, available encouragement will not be granted automatically to an enterpreneur upon receiving a license. The Ministry will not grant any form of encouragement if it does not consider the business venture as economically justified. For practical and statistical purposes, two forms of licenses will be issued, one that permits the taking advantage of the various forms of encouragement and one that does not.

The Ministry's advisory services will be expanded so that entrepreneurs can be offered more comprehensive information and advice on projects, on contacts with capable joint-venture partners, and on the organization and operation of new industrial enterprises.

The ISDC will assist the Ministry in furnishing these services, and in reviewing the feasibility analyses. Industrial estates are being established by the Ministry in Riyadh, Jiddah and Dammam to simplify land acquisition, project implementation and operations, particularly for the small entrepreneur. The estates in Riyadh and Jiddah will be completed in 1390, and the Dammam estate is expected to become active in 1391. Projects and programs planned by the Ministry of Commerce and Industry are dependent on progress made in projects sponsored by other government agencies. Efficient coordination will be assured by the organization of a committee representing the relevant government groups.

Throughout the plan period, the Saudi staff of the Ministry will continue training as replacements for foreign staff members.

Industrial Studies and Development Center

The ISDC carries out research and studies relating to industrial development, makes recommendations based on such studies, and provides technical assistance to industries, existing or prospective. The Center also supervises the construction and management of the industrial estates, and provides on-the-job training through its industrial extension service.

In addition to this, the ISDC plans to expand its program by the addition of a management training unit for the benefit of the private sector. This unit will be established during the second year of the Plan. ISDC's headquarters will be expanded by the addition of a planning and a statistical unit.

Extension services to be provided by ISDC to the private sector will include advice on:

1. Plant selection and layout;
2. Production methods, control and management;
3. Sales and marketing;
4. Cost accounting; and,
5. Project planning, evaluation and implementation.

ISDC will perform feasibility studies annually for at least two major, high priority projects during the plan period. At the same time, it will continue its evaluations of industrial opportunities in the Kingdom. Furthermore, the ISDC will study the feasibility of additional industrial estates and zones in other cities later in the plan period. During the first year of the Plan, it plans to publish an investment guide for industrial investors and update it annually.

Promotion of industrial productivity is one of the goals of ISDC's programs. This goal will be pursued by organizing a committee for the promotion of industrial productivity with members representing private industries and government organizations associated with industrial development.

The staff of this organization will be strengthened and will receive training from foreign consultants and in institutions abroad so that the need for foreign consultants will be greatly reduced by the final plan year.

Industrial Bank

The bank is proposed to be joint-venture with minority foreign participation. Government support would be needed in the form of interest-free deposits repayable over a reasonable period of time. Foreign participation is necessary to provide strong and efficient management and to attract foreign capital into the Kingdom.

While the Industrial Bank would extend credit to large and medium scale industrial enterprises, SAMA feels that consideration should be given to making credit available to small scale and cottage industries. Since it would be difficult to extend such facilities on a normal commercial basis, it is felt that the necessary funds would need to be provided by the Government in the form of budgetary allocations of about SR 5 million annually over the entire period of the Plan.

For administrative purposes and economy in operation, the Industrial Bank could create a special department to function in this respect on behalf of the Government. A special committee with representatives of the Government and the bank could be formed to establish the general policies to be followed in this respect.

FINANCIAL ALLOCATIONS

The total financial allocations to the Government agencies concerned with industrial development, during the period of the Plan are listed in Table 60.

TABLE 60

FINANCIAL ALLOCATIONS FOR INDUSTRY

(SR Millions)

	Recurrent	Project	Total
Ministry of Petroleum and Mineral Resources			
Ministry expenditures (*a*)	40.5	—	40.5
Directorate General of Mineral Resources (DGMR)			
Directorate expenditures	82.5	5.5	88.0
Arabian Drilling Company (ADC)	—	45.6	45.6
Saudi Arabian Mineral Exploration Company (SAMEX)	—	20.0	20.0
Foreign Contract Services	—	110.2	110.2
DGMR sub-total	82.5	181.3	263.8
Petromin	104.0	477.3	581.3
Ministry of Commerce and Industry (MCI)			
Department of Industry	11.1	—	11.1
Industrial estates	4.2	26.9	31.1
Flour mills and silos project	—	82.6	82.6
MCI sub-total	15.3	109.5	124.8
Industrial Studies and Development Center (ISDC)	24.5	8.6	33.1
Industrial Bank	55.0	—	55.0
GRAND TOTAL	**321.8**	**776.7**	**1,098.5**

(*a*) *Excluding DGMR and Aerial Survey Department*

Source : C.P.O.

The allocations for the DGMR provide for expansion of its capacity to perform the functions of geological mapping and related work, regulation of mining activities, and negotiation and supervision of contracts for geological survey, exploration and research projects. This expansion will start during the first two years of the Plan when allocations for the two major survey missions — US Geological Survey (USGS) and Bureau de Recherches Geologiques et Minieres

BRGM) — are maintained at about their existing levels. It will continue during the remaining years of the Plan, when these missions are gradually being phased out. During this period the DGMR will gradually take over the geological survey work performed under these contracts, and subject to a feasibility study, a national agency (SAMEX) will be developed to take over their exploration activities.

The allocations for national contract services provide for continuation of the existing drilling contract with the Arabian Drilling Company and for exploration work that must be done at Government expense by SAMEX during the period in which the two major survey missions are phased out. During the first two years of the Plan the allocations for foreign contract services provide for the continuation of the USGS, BRGM and Japanese Geological Survey Mission contracts at about their existing levels and for research proposed to be undertaken by doctoral candidates of foreign universities. These allocations are reduced over the remaining years of the Plan as the two main survey missions are phased out.

The allocations made to Petromin are to cover expenditures for the normal performance of the functions of headquarters-staff and costs of implementation of Petromin projects. The total allocation — SR 581.3 million — is computed as follows:

1. Total capital costs of Petromin projects proposed in their plan is SR 5,112.5 million (see Table 61).

TABLE 61

PETROMIN PROJECT EXPENDITURES

(SR Millions)	Total
1. Projects Under Construction	
Lubricating Oil Blending Plant	10.0
Sulphuric Acid Plant	4.7
2. Projects Approved	
Jiddah Refinery Expansion	141.0
Riyadh Refinery	179.0
Sulphur Company	126.0
Tanker Company	10.0
Lands for Bulk Plants	4.7
Building for Petromin offices, Compounds, Road Asphalts	3.1
Steel Rolling Mill Second Stage	85.0
3. Feasibility Studies Proposed or In Progress	
Uthmaniya-Riyadh Pipeline	116.0
Potash	126.0
Magnesium	135.0
Petrochemicals (Anic-Philips)	320.0
International Trading and Marketing	22.5
Petrochemical Intermediates (liquified natural gas and petrochemical feed stocks)	1,507.5
Phosphate Rock (mining)	262.5
Elemental Phosphorus	295.0
Phosphoric Acid	345.0
Sulphuric Acid from Gypsum	175.5
Ammonia-Urea	288.0
Ammonia	190.5
Aluminum	765.0
SAMEX	0.5
	5,112.5

Source : Petromin.

2. Petromin has estimated its requirement from the Government to total SR 2,262.0 million of which SR 1,321.0 million is required for equity participation, SR 806.0 million for loans and SR 134.0 million for headquarters and other expenses.

3. The financial allocation proposed for Petromin is based on:

   a. 25 percent of the capital costs of projects will be raised by domestic and foreign equity participation.

   b. 50 percent of the capital costs of projects will be raised by loans from equity participants and bankers.

   c. The remaining 25 percent will be financed by Petromin and the Government.

4. Finance under 3c above for projects on this basis will amount to :

25 percent of total project cost of SR 5,112.5 million	SR 1,278.0 million
To which must be added headquarters expenditures	SR 104.0 million
Total	**SR 1,382.0 million**
Less dividends and surplus funds of Petromin	SR 64.0 million
	SR 1,318.0 million

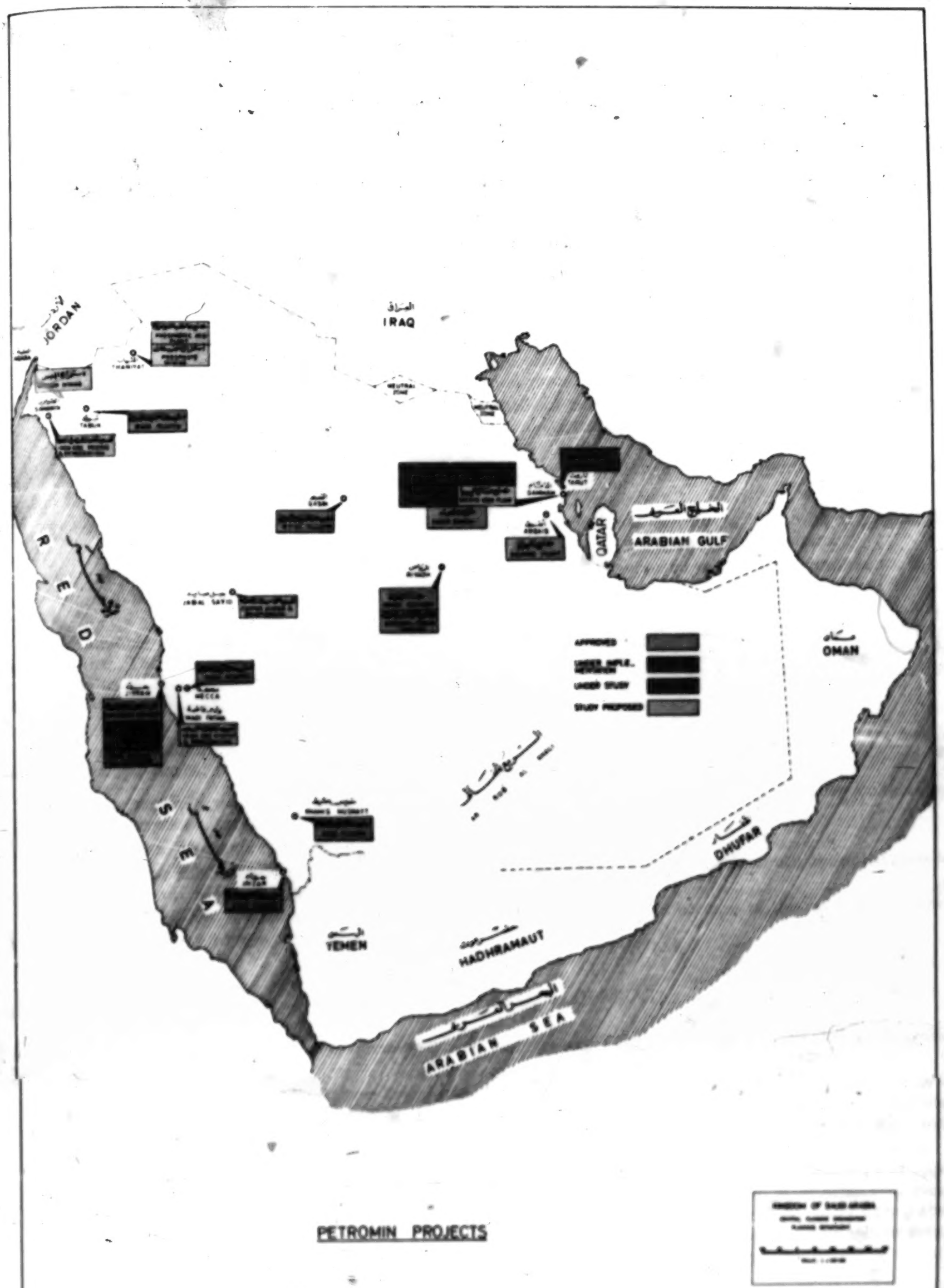
5. Some of the projects shown in Table 61 are subject to a high level of uncertainty both as to economic feasibility and the time it will take to implement them if they are found to be feasible. It is assumed that projects under the headings "Projects Under Construction" and "Projects Approved" in Table, 61 will be implemented during the period of the Plan, (see Fig. 37).

   For the projects under the heading "Feasibility Studies Proposed or In Progress", it is assumed that the aluminum and SAMEX projects will be implemented, the second phase of the petrochemical intermediates projects (requiring a capital expenditure of SR 1,507.5 million) will not be implemented during the Plan, and one-third of the remaining projects will reach the stage of implementation during the Plan. These assumptions lead to the reduction of the amount of SR 1,318.0 million shown under item 4 above by 25 percent of the capital cost of projects assumed not to be implemented during the Plan; that is by 25 percent of SR 2,946.6 million or SR 736.7 million. Hence the allocation for Petromin is set at SR 1,318.0 million minus SR 736.7 million, or SR 581.3 million.

The financial allocations for the Ministry of Commerce and Industry provide for strengthening of the staff of the Industrial Department, implementation of the industrial estates in Jiddah, Riyadh and Dammam, feasibility studies for industrial zones and estates, and implementation of the flour mills and grain silos project.

The financial allocations for the Industrial Studies and Development Center (ISDC) include expenditures for strengthening its staff and costs of foreign consultants. The allocation for the Industrial Bank includes SR 30 million for the government contribution to a joint-venture for financing large and medium-scale industry and SR 25 million for subsidized credit for small-scale industry.

Total allocations proposed for the industrial program amount to SR 1,098.5 million.



PETROMIN PROJECTS

FIG. - 37

CHAPTER X

AGRICULTURE

The contribution of agriculture to the Gross Domestic Product increased from SR 866 million in 1382-83 to SR 974 million in 1388-89. A level of about SR 1,000 million is expected to be reached in 1389-90. Since other sectors of the economy grew at a more rapid rate, the production of GDP contributed by agriculture, which was 10.1 percent in 1382-83 and 6.1 percent in 1388-89, was expected to be about 6 percent in 1389-90.

There were great variations in the rate of growth within the agricultural sector.

1. Vegetable production increased markedly, as farmers responded to a strong market demand by expanding the area devoted to vegetables, and by combining more purchased inputs with improved skills.
2. Field crops also increased but at a lesser rate than vegetables.
3. Range livestock production, which is dependent on precipitation-influenced desert grazing, declined in the drouth years early in this period, but made a good recovery in the later years.
4. Poultry production increased markedly with the help of protective tariffs during the past five years, and its increase tends to mask the effect of the drouth on aggregate livestock production.

The importance of agriculture in the economy of the Kingdom is indicated by the proportion of the population engaged in agriculture:

1. About 65 percent of the total national population was estimated to be rural in 1389, with 51 percent of the total settled and 14 percent nomadic, although not all of these are employed in agriculture.
2. Only 46 percent of the total labor force was estimated to be employed in the agricultural sector in 1386, including forestry, fishing, livestock production, and crop husbandry.

The number of workers in agriculture has been declining as farm workers have found more remunerative work in urban areas. The proportion of the labor force in agriculture is expected to continue to decline as additional labor now surplus to agriculture moves into other sectors. The agricultural sector can probably continue to supply additional labor to other sectors without loss of productivity.

Agriculture's contribution to development also includes benefits to the country not readily apparent from data on GDP or employment:

1. Increases in agricultural production tend to increase employment in other sectors, as the agricultural output is transported, processed and marketed.
2. Domestic production of crops and livestock reduces the need for imports.
3. There are substantial opportunities for production of commodities (for domestic consumption) at costs lower than those of foreign-produced substitutes.
4. Self sufficiency is attractive because of its strategic implications and because of the resulting reduction in dependence on foreign exchange.

POTENTIAL FOR DEVELOPMENT

The potential for agricultural development in terms of measurable output may be considered three-dimensional: area, yield, and value.

1. **Area.** Area studies and resource inventories reveal that Saudi Arabia has additional land resources which can be used for the increased output of crops, and subterranean water resources which can be exploited for irrigation. The amount of irrigated cropland in the Kingdom can be expanded by 5 to 10 percent over the next five years without exhausting this potential.
2. **Yield.** Impressive increases can be achieved in the yield of crops in Saudi Arabia. Substitution of improved varieties and application of new techniques (particularly the use of fertilizer and plant protection measures, plus timely and efficient tillage, irrigation and harvesting) can double the yield of wheat during the Plan without exhausting the potential for further increase. The potential for certain other crops may be even more dramatic.

3. **Value.** High value crops can be used to replace lower value crops: for example, the replacement of cereals by vegetables selected for higher values per unit area of land. In some instances mechanization of crop production may reduce costs to such an extent that profit can be increased, even with a simultaneous reduction in sale price per unit of production.

Another aspect of area and yield is the efficiency of water use. Much of the irrigation of crops in the Kingdom is wasteful of water. Certain changes in methods, equipment and timing of applying water to crops would permit the same or better results with significant reduction in the quantity of water for irrigation. The water thus saved could be applied to additional cropland, thus increasing the area of cultivation as well as increasing the yield of crops per unit of water used.

The outlook for agriculture in Saudi Arabia is good, not only because of the potential for expansion of production but also because of the growing domestic demand for agricultural products, (see Fig. 38). The population is continuing to grow; the level of income per worker is rising; and per capita food consumption and expenditures are increasing. Projections of demand, based on expected increases in population and in per capita income and the income elasticity of demand, indicate that aggregate demand for food will increase by about 25 percent during the period of the Plan, or about 4½ percent per year. For certain commodities, increased per capita income is reflected in nearly proportionate increases in demand. For these commodities — meat and dairy products for example — demand may increase by as much as 6½ percent per year. This anticipated expansion of the domestic market for agricultural products provides a sound basis for encouraging expansion of agriculture.

OBJECTIVES AND TARGETS

Objectives

The objectives of national development are rapid, sustained, and broadly based growth with increased participation by, and greater rewards to, indigenous resources. Sectoral objectives and development goals that are consistent with the national objectives can be summarized as:

1. Improvement in efficiency and increase in output of the agricultural process; and,
2. Sound distribution and utilization of resources for the welfare of this and future generations.

Improving the efficiency of the agricultural production process would provide increased income and improved living conditions for the producers. These changes would establish for both the entrepreneurs and the workers opportunities commensurate, at least, with those available in other economic sectors. In addition, such changes would provide an abundance of food supplies for the domestic consumers at lower cost.

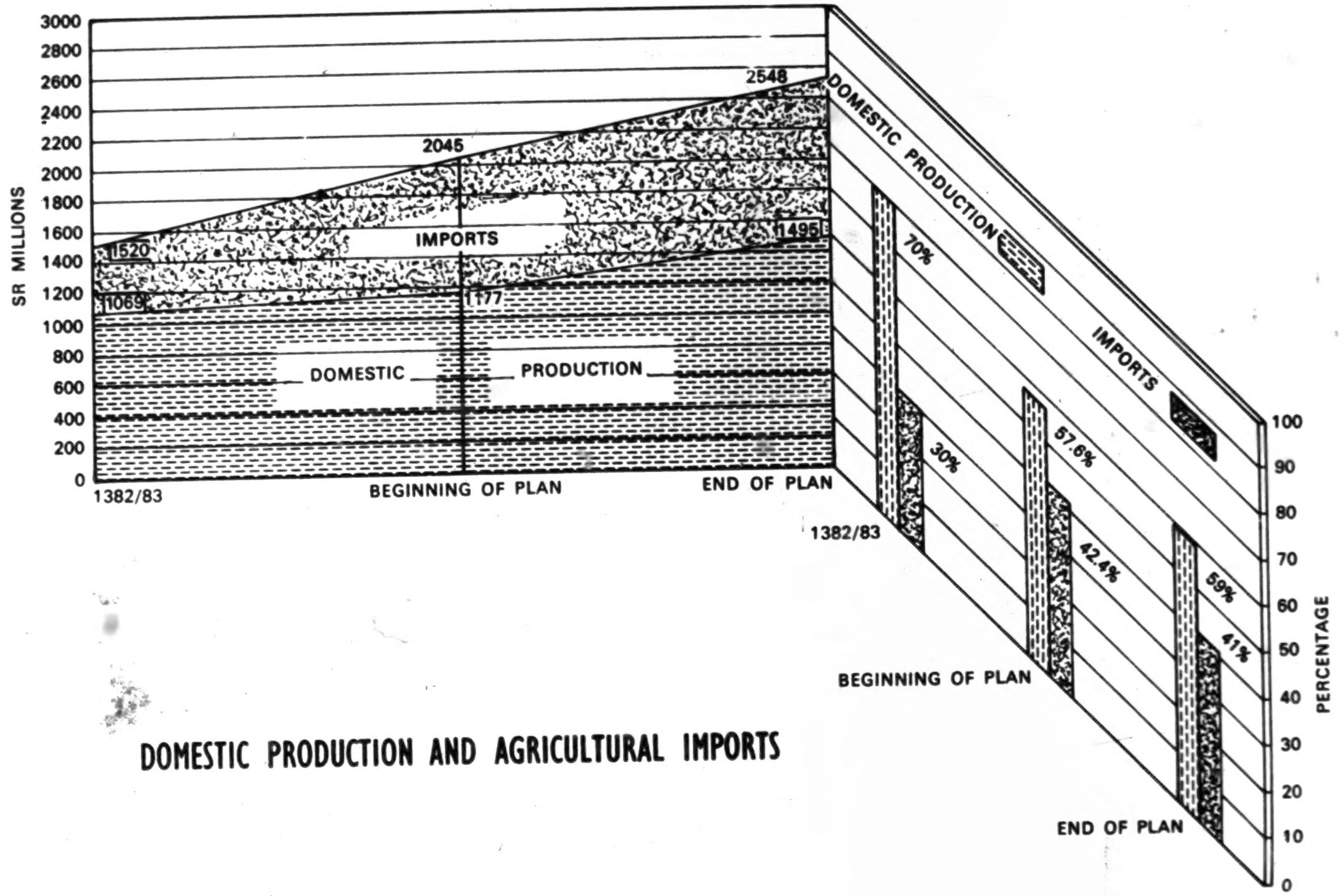
Sound distribution and utilization of resources would include:

1. Finding and adopting improved technology that would be appropriate to the needs of cropping patterns;
2. Encouraging and promoting, through strengthened extension and training programs, the adoption of selected production systems and improved farm and ranch practices;
3. Implementing rational investments in basic production and distribution facilities;
4. Providing for the efficient use of water for domestic as well as agricultural consumption according to the needs of a growing population and the expanding requirements for the development of feed and food supplies;
5. Fostering and encouraging the rational organization of public and private infrastructures and, particularly, the establishment of market support institutions and distribution practices;
6. Establishing economic and effective conservation and control measures;
7. Encouraging and establishing a strong and independent private entrepreneurship concurrent with the strengthening of public services to the private sector.

Targets

Targets for increases in the domestic production of wheat, vegetables, meat and other products are shown in Table 62, which compares estimated production for 1389-90 with the production targets for the final year of the Plan, (see Fig. 39).

Fig. 38



DOMESTIC PRODUCTION AND AGRICULTURAL IMPORTS

ANNUAL PRODUCTION OF AGRICULTURAL PRODUCTS, MEAT, AND POULTRY

(SR MILLIONS)

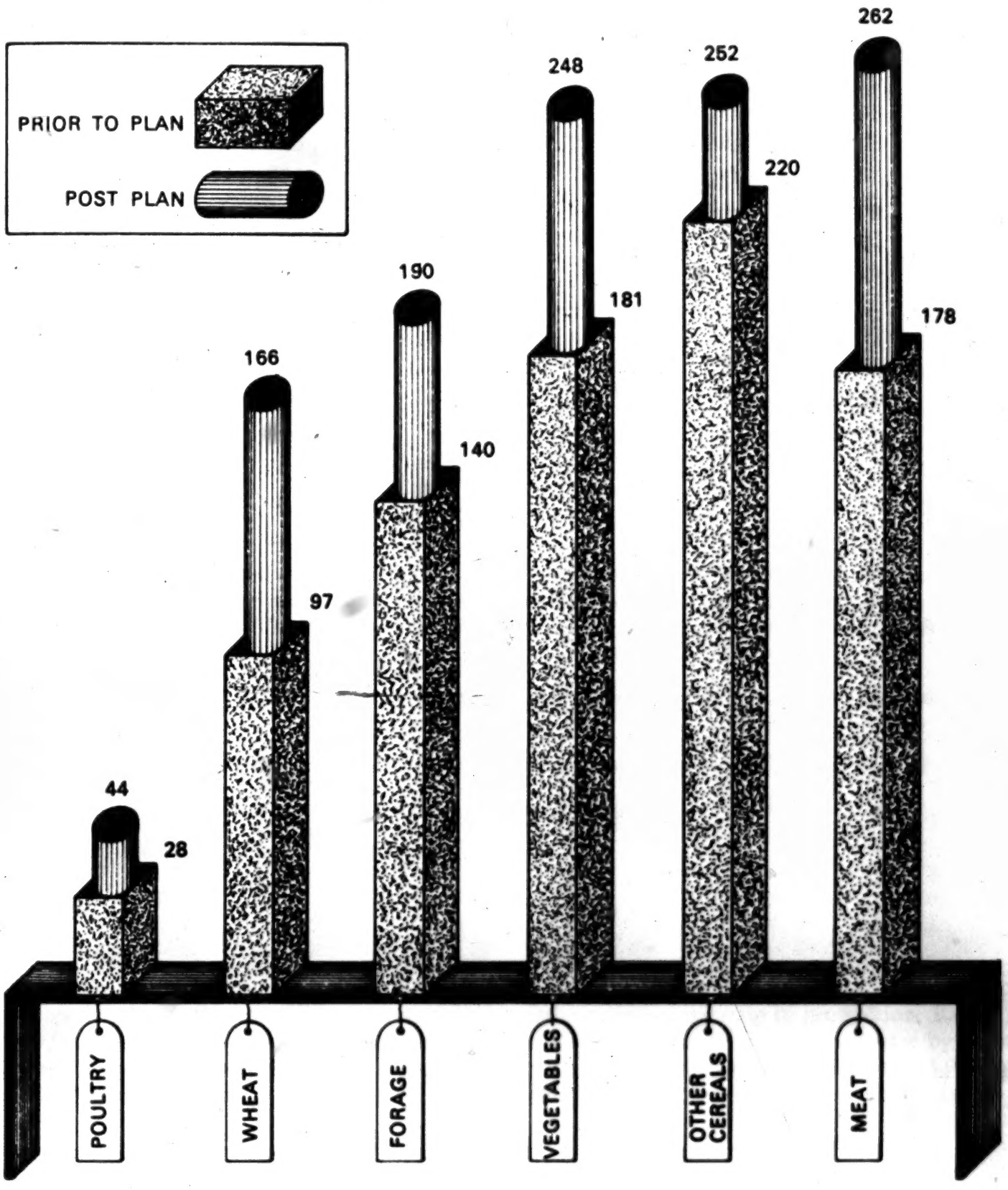


Fig. 39

TABLE 62

GROWTH OF THE AGRICULTURAL SECTOR DURING THE DEVELOPMENT PLAN

(production in thousands of tons; value in millions of Saudi riyals)

Crop	Constant Price	Current Year 1389-90 Estimated(*a*)		Final Plan Year Targets		Percentage Increase in Value	
	SR/Ton	Production	Value	Production	Value	Plan	Annual(*b*)
Wheat	720	135	97	231	166	71	11
Barley	608	37	22	56	34	55	9
Rice	700	3	2	7	5	150	20
Sorghum	734	112	82	131	96	117	3
Millet	734	155	114	160	117	3	1
Alfalfa	80	1,760	141	2,380	190	35	6
Vegetables	354	510	181	693	245	35	6
Dates	500	250	125	240	120	—4	—1
Fruit	834	94	78	100	83	6	1
Total Crops(*c*)	—	—	**701**	—	**866**	**24**	**4.3**
Meat	3,700	48	178	71	262	47	8
Broilers	4,500	4	18	6	29	61	10
Eggs(*d*)	2.4	50	10	75	15	50	8
Fish	2,000	30	60	36	72	20	4
Dairy Products(*e*)	1,000	210	210	252	252	20	4
Total Animal Products	—	—	**476**	—	**630**	**32**	**5.8**
Total Agriculture	—	—	**1,177**	—	**1,496**	**27**	**4.9**

(*a*) *Estimates of botanical crops are based largely on Saudi Arabian census area and FAO yield data for the Middle East, applicable to a common base period; prices from the area studies; and subjective assessment of changes in area and yield since the base period. Estimates of animal products are derived by subjective assessment from a variety of source materials.*

(*b*) *Rate of growth which compounds annually from the current period would achieve the targeted increase by the final plan year.*

(*c*) *Total excludes alfalfa which is almost altogether an input for animal products.*

(*d*) *For eggs, price is per dozen and production is in millions of eggs.*

(*e*) *Dairy products are shown as milk equivalent.*

Grains

Wheat production is expected to reach 231,000 metric tons per year in the last year of the Plan, compared to current production of perhaps 135,000 tons. This represents an 11 percent annual increase in production. Barley production will increase to 56,000 tons compared to 37,000 tons in 1389-90. Barley production thus will increase by about 9 percent per year. Rice production may achieve an annual increase of 20 percent but it starts from a small base (3,000 tons of estimated production in 1389-90, increasing to 7,000 tons). Other cereals are expected to make smaller increases in production.

Forage

Forage production, chiefly alfalfa and berseem, will show the largest incremental output, from 1,760,000 tons in 1389-90 to 2,380,000 tons. This is the green-weight equivalent; the actual market weight of the product will be less because of the expected increase in the proportion of dried and baled, or otherwise processed forage. The annual increase will be about 6 percent.

Vegetables

Vegetable production will also expand at about 6 percent per year, from an estimated 510,000 tons in 1389-90 to 693,000 tons in the final year of the Plan.

Livestock

Animal products will increase, due in part to the stimulus of increased forage production. The output of meat is expected to reach 71,000 tons compared to the 1389-90 level of 48,000 tons; this represents an annual increase of 8 percent.

Poultry

Poultry production will increase in terms of broilers as well as eggs. An overall increase exceeding 60 percent is expected in broiler production by the final year of the Plan. Egg production will increase at about 8 percent per year and by the last year of the Plan domestic sources will supply more than half the national requirement.

Others

Production of fish and dairy products will increase but at a moderate rate; targets are set at levels of increase comparable to expected population increase — nearly 4 percent per year.

Overall

Overall crop production is predicted to increase at a rate of 4.3 percent per year, and animal products are expected to increase 5.8 percent annually. The production of the agricultural sector as a whole is predicted to grow at a rate of 4.9 percent per year, corresponding approximately to an average annual growth in added value of 4.6 percent per year.

Estimates of GDP by sector of origin in recent years suggest that these targets are not unrealistic. While growth of the agricultural sector between 1382-83 and 1388-89 averaged only 0.8 percent per year, in several of these years the severe drouth caused a sharp fall-off in growth. In the last two years of this period, growth averaged 3.5 percent in the agricultural sector.

Foundation for Development

In addition to the targets for increases in output of agricultural commodities, another target exists that is less readily quantifiable but nonetheless important to agriculture's continued growth: It is to undertake the research and acquire the experience in operating programs and projects that will provide the foundation for further development of agriculture.

The fulfillment of this target depends on the following:

1. Research into the location and availability of resources will be broadened and deepened through continuation of hydrological, geological and land resources studies.
2. Feasibility studies will reveal ways to develop newly inventoried resources.
3. Knowledge about optimal use of resources and desirable technology will be gained through experimental and analytical research.
4. Supporting services will be modified to improve their impact on agricultural production.
5. Existing development projects will be implemented to increase the base for production.
6. Experience will be acquired in management and operation of these projects to guide further investment in large scale irrigation projects.
7. Investment by the private sector in further expansion will be encouraged in order to increase this growth.

PROGRAMS AND PROJECTS

To achieve the targets just described, interrelated action programs are planned in a number of different areas.

Policies

The Ministry of Agriculture and Water plans policy revisions to:

1. Assist and encourage private investment in agriculture and agroindustries, and to use public investment for supporting and augmenting private investment to the fullest extent possible.
2. Emphasize and promote the commercialization of agriculture and to assist further penetration by farms into the market economy through increases in both efficiency and scale of operations.

3. Strengthen the capabilities of all departments of the Ministry so as to provide greater assistance to the farmers of the Kingdom, particularly in mobilizing manpower and technical resources.

4. Devote greater emphasis to programs and projects designed to increase near term agricultural output and return high payoffs to the farmers.

5. Utilize the reports and findings of the land and water resources area surveys as a basis for establishing sound and equitable economic plans, programs, and projects: Such plans should also include provisions for increasing the efficiency of available human and physical resources, and for obtaining improved efficiency in production and output.

6. Bring into production at the earliest possible date the three large publicly sponsored irrigation projects on which construction is being completed but which are not yet in operation: Additional large scale agriculture investment projects should not be undertaken until these are operational and until adequate financial, administrative and manpower resources are available to implement old and new projects.

7. Terminate the provision of free farm production services and materials as soon as possible: Systems of subsidy, if needed, should encourage individuals to do things for themselves; more technical assistance and technical training should be made available through extension, teaching, and demonstration work. In addition, the supporting infrastructure (that is, roads, marketing and processing facilities, and additional services which indirectly support the efforts of individual farmers) should be strengthened.

8. Establish fair rates of user charges on public services and investment projects: Comprehensive studies would be conducted where necessary to set the schedules of costs to be borne by users and by the public.

9. Establish, if need is determined, a price support system for wheat, and conduct studies on grains storage or other facilities needed to implement the price support program: Wheat, however, is the only crop that should be considered for price support now because it alone has been adequately studied. Proposals for price supports and marketing systems for other commodities should be based on thorough studies of needs and requirements.

10. Encourage integration of the Bedouins into the economic and social structure through helping them strengthen their technical and economic activities.

Crops and Livestock

Agricultural development is a process involving the decisions of a host of farmers, as well as of government officials and the many individuals engaged in marketing, processing, transportation, and other needed functions. An important component of the program to further development is the execution of policies and programs which induce farmers and other individuals to make monetary and non-monetary investments in agriculture and related industries, thus promoting growth. Government programs must also provide essential services which supplement the investments of individuals and which support specific changes in technology and in the efficiency of its use.

Programs now to be undertaken will encourage production of agricultural commodities whose production and growth can be most affected in the near future. Success with these programs will establish a pattern which can be repeated later with other commodities.

Wheat, vegetables and meat are the commodities selected for particular encouragement. These are major commodities in terms of acreage and production, and thus any increases in their production will have significant impacts on agriculture, and will affect large numbers of farmers. The technology whereby increased yields and production can be obtained is already developed and tested, and needs only application. These commodities are or can be profitable to farmers, as shown in Table 63 and the increase in domestic production through these programs can be competitive with imports*.

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* *Subsidies on imports of wheat and rice are placing domestic producers at a price disadvantage. The recent removal of the import subsidy on meat and the future elimination of other such subsidies should be expected to result in increasing the price levels of the commodities, to the benefit of domestic producers.*

TABLE 63

ESTIMATED PRESENT AND POTENTIAL RETURNS FOR SELECTED MAJOR CROPS

	Yield (Tons per hectare)	Price (SR per ton)	Value, SR per hectare		
			Gross Returns	Production Costs(a)	Net Returns(b)
Present Production					
Wheat	1.5	600	1,350(c)	835	515
Vegetables	15.0	300	4,500	3,150	1,350
Forage	80.0	80	6,400	4,700	1,700
Potential Production					
Wheat	3.5	420	2,045(c)	1,175	870
Vegetables	20.0	325	6,500	3,900	2,600
Forage	110.0	50	5,500	3,300	2,200

(a) Cash and non-cash costs except imputed rents.
(b) Net returns to management and landownership.
(c) Includes value of straw.

Source: Derived and generalized from the Area Studies and from studies by the Statistical Department of the Ministry of Agriculture and Water.

Wheat Production

The wheat program, developed by the Ford Foundation, undertakes to revolutionize wheat production technology. High yielding varieties of wheat will be introduced through a seed multiplication-demonstration program which combines the efforts of the Extension and Research Departments. Participating farmers are expected to increase their use of fertilizers encouraged by a 50 percent subsidy on all fertilizers in the Kingdom. The adoption of a price support system for wheat is recommended in the second or third year, if studies show a need for such price support, (see Fig. 40).

Because of the different characteristics of Mexipak and other wheat varieties which have yielded best in tests, these varieties must be sold at lower prices than traditional varieties during the transition period. Price support might be needed to maintain profitability of these new varieties. Varieties now being developed show promise of yield capability equal to Mexipak with flavor and other characteristics comparable to traditional varieties, which will reduce the level, or possibly eliminate the need, for price support during their introduction.

The introduction of new varieties must be accompanied by improvements in production technology; therefore, a "package of practices" (including land preparation, mechanical planting, fertilizing, better water application, weed control, and improved harvesting) will be introduced along with the new seed. "Multiplication-Demonstration Teams" of Ministry technicians, two or three per team, will work with selected farmers to multiply the seed needed. Each team would be expected to work with about five farmers having at least five hectares per farm for multiplication and demonstration. These selected farmers in turn would demonstrate to other farmers in the area how to grow the new varieties with the recommended production practices.

An increase in wheat production of approximately 60,000 tons could be achieved if the new varieties are properly grown on about 40,000 hectares. In addition, it may also be possible to produce about 20,000 tons of improved durum wheat through similar introduction of new varieties.

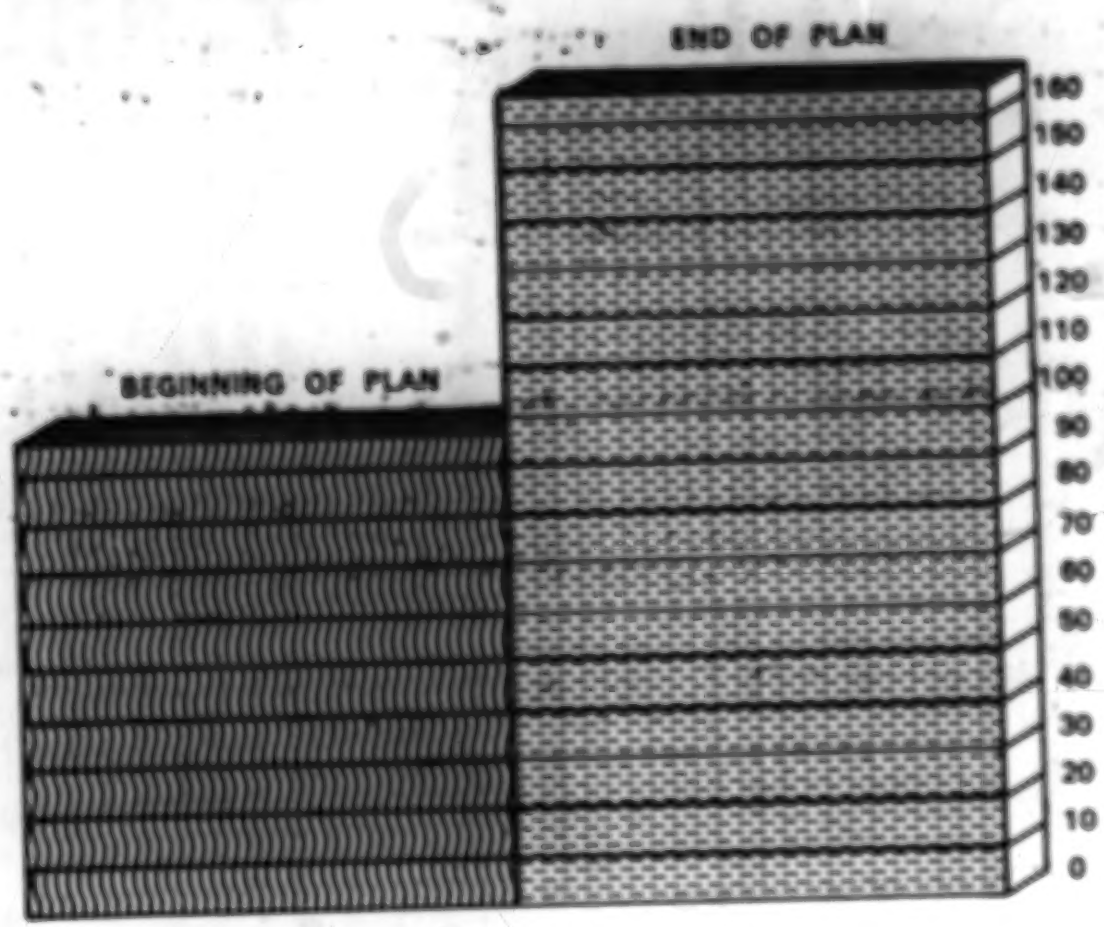
A program of this type could produce a significant breakthrough in the entire agricultural economy by increasing agricultural productivity and incomes in an important segment of the Kingdom's agricultural sector.

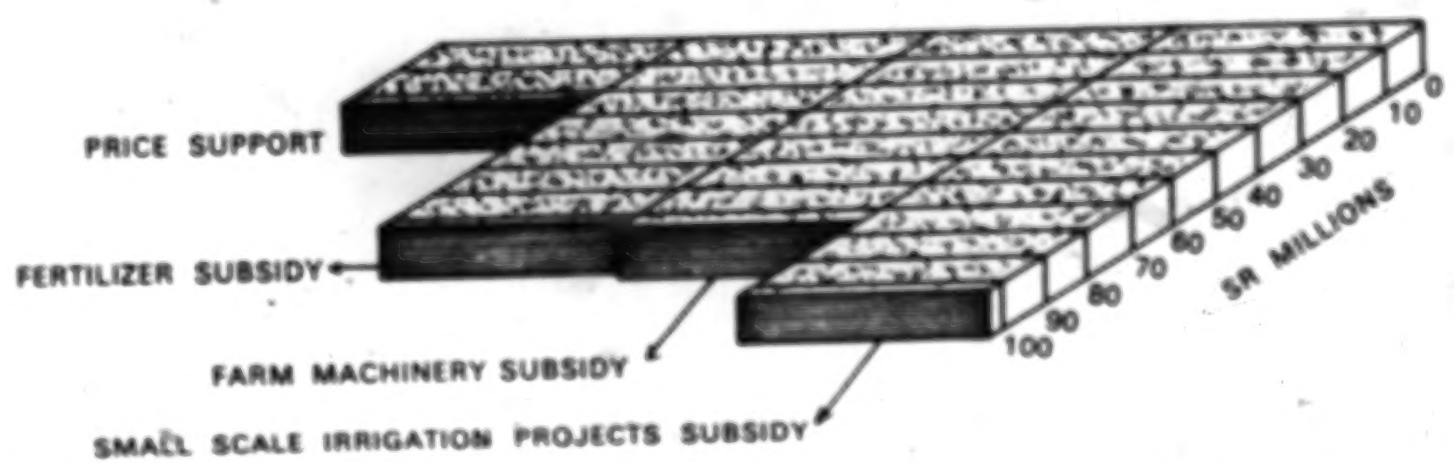
Vegetable Production

Domestic production of vegetables has increased rapidly in response to buoyant market demand. In view of demand projections indicating increases of 25 percent or more in the demands for vegetables during the plan period, continued opportunities to increase production for the domestic market may be expected.

WHEAT PRODUCTION AND AGRICULTURAL SUBSIDY PROGRAMS

END OF PLAN	BEGINNING OF PLAN	PRODUCTION IN TONS
231,000	135,000	





The domestic market may, within a few years, include canneries and processing plants; such agroindustries would further encourage increased production of vegetables. In addition, as markets continue to develop, it may be possible to increase the quantities of selected vegetables exported to neighboring countries.

The program to boost production of vegetables has three components:

1. An extension teaching or demonstration program in vegetable production;
2. Subsidy on fertilizer equal to half its cost; and,
3. A marketing program, including provision of better facilities, assistance to producers in organizing for better marketing, price reporting and dissemination of market information, and, if indicated by research, certain measures to stabilize prices.

Meat Production

The program to encourage meat production is less fully developed than the programs for wheat and vegetables, partly because meat production is more complicated. The basic elements are evident, however:

1. Extension teaching and demonstration work in improved and expanded livestock production, and,
2. A program to expand forage production, forage being the most important livestock feed and therefore the major cost component in production of livestock.

Existing private farms at several strategic locations near urban areas will be used to demonstrate improved practices for animal production, and farmers will be encouraged to visit them; also, the private sector will be assisted in planning and establishing commercial feed lots for large-scale fattening of livestock.

An increase in forage production will be reflected in meat production. Increases in both dry-land range and irrigated forage production are desirable. The former will be achieved primarily by control of grazing intensity on the range, supplemented by water spreading projects in certain valleys. Irrigated forage (chiefly berseem) will benefit from the subsidy on fertilizers, and will in addition be encouraged through extension teaching and demonstration of modern technology and methods. These methods, including reorganization of irrigation and mechanization of harvesting, can maintain or improve the yields while vastly reducing labor requirements; the increased efficiency will permit reduction of selling price, thus encouraging wider use as livestock feed, and simultaneous increase in profit per hectare. A proposed machinery subsidy program, to be discussed subsequently, will also be of importance in the mechanization of forage production.

Dates

Dates represent an important and traditional agricultural commodity in Saudi Arabia for which there are major problems in marketing as well as production. Studies in depth on various facets of date production, processing, marketing, and consumption are needed to form the bases for the design of sound action programs.

Subsidy and Price Support Programs

A major part of the expected development of resources for agricultural production, and practically all of the production itself, will be done by the private sector and will result from decisions by private entrepreneurs.

To induce the necessary participation by the private sector, monetary encouragement must be provided. Four types of such encouragement are planned: (see Fig. 40).

1. Subsidy on fertilizer;
2. Subsidy on machinery and farm modernization;
3. Support of prices for a limited number of agricultural commodities; and,
4. Grants for development of new land and water resources.

Payment of government funds to agricultural producers has not been practiced in Saudi Arabia; however, importers of wheat, live animals, medicines and other commodities have received subsidies. About SR 15 million of subsidies for imported agricultural commodities were authorized in 1389-90. The new subsidies included in the Plan will encourage increases in domestic production, and will benefit Saudi rather than foreign farmers.

Other countries have had less conflict and controversy in establishing subsidies than in removing them. The subsidies proposed here are intended to ease specific and temporary, rather than general or chronic, hardships and thus are intended to be temporary rather than permanent. To reduce the likelihood of subsidies becoming permanent they should be reviewed annually by a joint committee representing the Ministries of Agriculture, Commerce, and Finance. A schedule for reduction of each subsidy should be included in the authorization so that the subsidies will be eliminated at a specific time.

Fertilizer Subsidies

A subsidy amounting to 50 percent of the cost of fertilizer will be paid to facilitate the trial and testing of chemical (manufactured) fertilizers by farmers and to encourage use of fertilizer on all crops throughout the Kingdom. The Extension Department will teach farmers and conduct demonstrations, concentrating initially on wheat with a lesser emphasis on vegetables, thus promoting the most rapid increases in the rate of fertilizer application on these crops.

Chemical fertilizers potentially will produce increases in yield with nearly any crop, and the resulting boost in production will demonstrate that a government subsidy on fertilizers is good investment.

The purpose of the fertilizer subsidy is to accelerate the adoption of this tested agricultural input rather than simply to transfer a share of agricultural production costs to the government; thus a limit is to be placed on the amount of subsidy which can be paid. Wider use of fertilizer will diminish the need to encourage its adoption through subsidies, and the proportion of fertilizer cost eligible for subsidy can be reduced. The subsidy should be eliminated altogether after some time, probably between 5 and 10 years.

Mechanization and Modernization Subsidy

The Extension Services Department has performed earthmoving and tillage for farmers at subsidized rates. This program will be terminated and the machinery sold; however, the program has generated a demand for such services. An alternative source of mechanical services will be encouraged by assisting farmers and custom-hire operators (contractors) who can perform such services to acquire their own machinery. The assistance will be an outright subsidy amounting to one-third of the purchase price provided conditions relating to the grant of the subsidy are met.

In addition, the Agricultural Bank will offer equipment loans, and the used equipment owned by the Ministry of Agriculture and Water will be sold at reduced prices.

While mechanization may be an impressive aspect of farm modernization, other aspects may be equally important in solving such farm problems as labor shortages, glutted markets at harvest, or high production costs. Such investments as water storage structures, reorganized irrigation systems, and crop handling and storage facilities, will also qualify for support. Subsidies and loans will be extended to appropriate types of modernization as rapidly as the necessary guidelines can be prepared and the programs implemented.

Price Support

The profitability of the new varieties of wheat can be enhanced while being introduced by market price supports. If studies indicate consumer resistance to the taste and cooking characteristics of the new varieties, price supports will be established for them. In addition, price support for vegetables will be studied and a program developed if a need is perceived.

The Planning Unit of the Ministry is expected to establish an Agricultural Economics Section to develop and analyze data as the basis for decisions on price supports and related questions. Production, distribution, and consumption of wheat, vegetables and other commodities, including meat, will be studied.

Irrigation and Drainage Projects

Repair and Protection

Maintenance of irrigation and water supply systems now in operation has first priority among production projects. Emergency maintenance cannot be foreseen, but normal maintenance (that is repair and protection of dams, drainage systems and irrigation networks) has been estimated through the final year of the Plan.

Completion of Current Projects

Second priority in allocation of funds for production projects goes to projects which are under construction and in which substantial sums have been invested. Outstanding projects are the al-Hasa recultivation scheme, King Faisal Settlement Project at Haradh, and the dam and irrigation project at Jaizan.

Completion of Approved Projects

Commitment to new projects has been withheld so that the only **"approved"** projects are extensions of projects under construction or additional needs of existing projects.

Large Scale Irrigation Projects

Much of the potential for increased agricultural production can be realized through development projects of a scale feasible only with government sponsorship; however, the major projects in progress have not yet begun to increase agricultural output. New major projects will be deferred so that the experience of implementing and operating projects can be utilized to guide selection, design and implementation of future projects. Studies will be continued so that well-conceived and soundly planned schemes will be ready to take advantage of available resources later on.

Small Scale Irrigation Projects

Area Studies have revealed land and water resources suitable for development as small projects or small increments to existing agricultural areas. These small projects present opportunities for harnessing private capital, under the profit incentive, to increase agricultural capacity and production through private investments in land and irrigation facilities.

A public land distribution law gives priority in land distribution to adjacent landowners, local inhabitants, and those most capable of utilizing the land. Distribution of public land will thus present greater opportunities to persons engaged in agriculture who wish to expand their operations. Development of this land for irrigated farming is the purpose of the small scale irrigation projects program.

Under this program, Ministry of Agriculture technicians would prepare specifications for wells, irrigation and drainage systems, machinery requirements, and initial operation of land parcels allocated by the Public Lands Management Department. These specifications would support the owner's application to the Agricultural Bank for a loan for well drilling and installation, land preparation, equipment and similar expenses. A subsidy or grant could be given for some predetermined proportion of development costs; payment would be conditional on adherence to specifications for well location and installation.

The recipient of the subsidy would be required to participate in the costs of new operations. The financial benefits would encourage investment and development wherever in the Kingdom prospective profits appeared largest and most rapid.

Estimates derived from Area Studies indicate that such private development projects would probably cost around SR 300,000 each for 20 hectares of cropland served by one well (Table 64). Benefit-cost analysis of such a project by the Planning Unit of the Ministry of Agriculture and Water indicates a B/C ratio of approximately 2/1, using a 6 percent discount rate.

TABLE 64

DEVELOPMENT COSTS OF SMALL SCALE PRIVATE IRRIGATION PROJECTS

(SR Thousands)

Item of Expense	Suggested Source of Funds			Cost per Hectare(*a*)
	Loan	Subsidy or Grant	Total	
Drilling, pump, engine, etc.	100	100	200	10
Associated services, facilities and equipment	60	20	80	4
Farm Planning	0	20	20	1
Total Cost of Development(*b*)	160	140	300	15

(*a*) *Based on 20 hectares per well.*

(*b*) *Operation and maintenance charges are included in cost of production estimates.*

IMPLEMENTATION

Supporting Services

These priority production programs and the land development projects will require strong support from several agencies and institutions, both governmental and non-governmental. This section discusses the responsibilities of the Ministry of Agriculture and Water. The next section discusses the program of the Agricultural Bank.

The contribution to development expected from the private sector should not be overlooked, although it cannot be planned and implemented by government agencies in a way comparable to the work of the Ministry. This contribution is:

1. The increasing mechanization of crop production will require expansion of machinery sales and service, machinery repair facilities, stocks of spare parts, machinery available for hire, and many more trained mechanics.
2. The expected crop increases will require increased capacity in the marketing channels; improved transport at lower costs; additional warehousing, cold storage, grading and packing plants; and improved communications within and between the marketing and producing sectors.
3. Further land development will require additional well drilling contractors, distributors and repairmen for pumping machinery, land levelling technicians and contractors, and the like.

Other examples could be cited, but the important point is that the private sector is an indispensable partner and participant in agricultural development.

Administrative Reform

The managerial, organizational and functional arrangements within the Ministry's various technical and operational departments have been intensively reviewed by the Organization and Management Unit. Department directors have been urged to suggest improvements in existing management and organizational arrangements which would facilitate execution of their responsibilities and of the plans that are being developed. These suggestions are being incorporated into refined program and project plans, the details of which will necessarily be developed as the programs are prepared for implementation.

Priority will be given to the needs for:

1. More effective use of the scarce resource of technically trained manpower, thus allowing the concentration of a higher proportion of staff time on field work and technical programs;
2. Clearer job specifications for individuals as well as for administrative units thus providing criteria for evaluation of performance and elimination of overlapping authority;
3. Reduction in the compartmentalization of departments and other administrative units, thus improving the coordination of tasks and facilitating the interchange of information; and,
4. Conception and implementation of administrative procedures which will, at minimum cost, eliminate bottlenecks in supplies, transportation, typing and report reproduction and other critical services.

Administration and Planning

Overall responsibility for implementing the governmental program in agriculture, other than in the credit subsector, lies with the Ministry of Agriculture and Water. Effective implementation and coordination is the function of administration: Coordination in the time dimension, the preparation of projects, completion of feasibility studies and annual revision and updating of plans are the duties of planning.

An essential component of administration and planning is the acquisition of information on which to base sound administrative and planning decisions; but the current planning effort has been plagued by a grave deficiency of information. One of the highest priority tasks in the Ministry of Agriculture and Water will be improvement of the data base of agriculture by means of a full and complete census of agriculture. Preparation for the census will begin in the first year of the Plan, and field work will be undertaken the second year. Tabulation, analysis and publication will follow so that the entire cycle is completed by the end year of the Plan. Surveys to determine a variety of facts (such as yield levels, use of various inputs, prices received, and production intentions) will supplement the census. Data gathering programs for retail prices in the several markets will be continued or expanded and the data gathered will be published in a series of widely distributed documents.

Ready access to accurate, up-to-date information will greatly facilitate future planning and will improve the caliber of resulting plans.

General Services

This division of the Ministry is responsible for personnel, logistics, finances, and support of continuing programs. Its role is supporting rather than technical, but the nature of the organizational structure requires budgeting large sums to General Services.

Land and Water Management

Supervision of the publicly owned range and forest lands and responsibility for their protection is only part of the work of the Public Lands Management Department. This Department also administers distribution of public lands, the first step in the small scale development projects discussed earlier. The Department's activities also include projects to facilitate optimal use of the range, and experimental work in range improvement.

Research and Technological Studies

Much research is needed to develop solutions to agricultural problems. Research is not confined to the Research and Development Department; it is performed in several departments of the Ministry.

Resource inventorying will continue to provide information about natural resources, through contracted studies as well as explorations of geology and hydrology by the Ministry. Systems will be developed to utilize the data being accumulated. Feasibility studies, marketing research and other economic analyses will seek the best allocation of resources, the most desirable policies, and the best solutions to marketing difficulties. On the technical side, research will continue on pest control, testing of plant varieties, formulation of better packages of crop production practices, improved nutrition and disease control for livestock, and many other subjects.

Effective organization remains one of the important problems of research. Consolidation of the Research and Development Department's network of experimental farms into research centers is planned to provide more effective research administration.

1. The station at Qatif will focus on horticulture;
2. The Hofuf-Dirab complex will concentrate on animal production;
3. The newly founded Jaizan station will pursue more general studies; and,
4. The Marine Biology Research Institute at Jiddah will be concerned with fisheries research and development.

A communications system, whereby the results of research are transmitted to extension agents in the field, for prompt introduction or implementation, is needed.

Agricultural Extension

The recent focus of the Extension Services Department has been on free pest control, and subsidized land-levelling and plowing. The focus will shift to teaching of farmers, primarily through demonstration. Teams of extension workers will begin this work for multiplication of new varieties of wheat and demostration of the package of practices for wheat production. Other workers will focus on work with farmers in the production of vegetables, forage and animals. Eventually this work and the preparation and dissemination of information will represent the major thrust of the Extension Department.

Manpower and Training

The Training Department is charged with the in-service training programs for ministry personnel. In view of the expanded need for trained personnel, and particularly for extension teachers and agricultural demonstration workers, the work of the Training Department looms as critical in achieving the planned objectives and targets.

Agricultural Credit

The lending program of the Agricultural Bank will be sharply increased under the national development plan. Agricultural credit will become a major development tool, used to:

1. Stimulate mechanization;
2. Encourage adoption of innovations such as new seeds and fertilizer; and,
3. Facilitate expansion of farms through adding new land and new irrigation systems.

The services of the bank will be made readily available to more farmers through opening new branches and offices. Certain changes will be considered in lending procedures, types and purposes of loans, security requirements and other features influencing the impact of the credit program on agricultural output.

The scale of the credit program in the Plan represents an expansion at a rate disproportionate to the past growth of the bank. In view of this expected rapid expansion of the bank's services, a number of difficulties in terms of personnel, accounting procedures, efficiency, and so on, may be expected. Measures to overcome these difficulties are incorporated in the Plan.

In the past, farmers' repayments of borrowed funds have been circulated in new loans, so that additional capital was required for only part of the loans; however, the expansion asked of the bank in the Plan exceeds the capacity of recirculated funds, and all of the additional loans must be funded by additions to the bank's capital.

The increase in lending activities will be distributed among short, medium and long term loans to support the priority programs of the MAW.

The relation between the two programs will be as follows:

1. The wheat program and the fertilizer subsidy are expected to increase farmers' demands for operating funds for fertilizer, seed, hired labor and other inputs suited to short term loans.
2. The liquidation of the MAW's stock of agricultural machinery and the planned subsidy on tractors and related agricultural production equipment will stimulate demand for medium term loans.
3. The small scale private irrigation and development program, including distribution of new lands and grants for part of the cost of land and water development, will result in increased demand for longer term loans.

The magnitude of these expenses and the time-lag before production can begin indicates that at least part of such loans should be on a long term basis, and the balance probably should be made for the maximum term allowed under the medium term category.

FINANCIAL ALLOCATIONS

The Ministry of Agriculture and Water and the Agricultural Bank have experience in administering applicable programs and projects, thus providing a sound base for estimation of the costs of achieving the targets for the sector of agriculture.

The financial allocations for the agricultural sector through the plan period aggregate SR 1,467.7 million (Table 65). This is divided between recurrent expenditures (SR 973.8 million) and project expenditures (SR 493.9 million).

The expenditures for agriculture are administered chiefly through two governmental agencies, the Ministry of Agriculture and Water and the Agricultural Bank. About 90 percent of the total funds for the agricultural sector are channeled through MAW, and about 10 percent through the bank; however, about 19 percent of the total is subsidies which may be disbursed through other agencies.

Viewed over the period of the Development Plan, the scheduled expenditures increase with the need and the absorptive capacity of the sector, and the administrative capacity of the agencies. The distribution of the total financial requirements over the period covered by the Plan varies with the program and its needs. Most of the supporting services of the MAW increase 10 to 15 percent each year. The spending planned for subsidies begins at a low level and increases in accordance with expected need or capacity for implementation of the program.

Existing major projects have declining requirements for financing as they are completed and put into operation; other projects are permitted to expand to use part of the funds thus freed. The Agricultural Bank's accelerated expansion calls for major increases in capital as well as operating funds.

TABLE 65

FINANCIAL ALLOCATIONS FOR AGRICULTURE
(SR Millions)

	Recurrent	Project	Total
MINISTRY OF AGRICULTURE AND WATER			
Administration and Planning	61.6	—	61.6
General Services	71.3	—	71.3
Water Resource Development and Conservation of Forests	20.5	—	20.5
Public Lands Administration	5.6	—	5.6
Research and Development	51.6	—	51.6
Extension and Agricultural Services	331.1	—	331.1
Training and Manpower Development	5.0	—	5.0
Price Support Subsidies	23.0	—	23.0
Fertilizer Subsidies	73.8	—	73.8
Farm Mechanization and Modernization Subsidies	75.0	—	75.0
Farm Development Subsidies	105.0	—	105.0
Existing Major Projects	—	178.9	178.9
Other Projects(*a*)	—	315.0	315.0
Ministry of Agriculture and Water Subtotal	**823.6**	**493.9**	**1,317.5**
AGRICULTURAL BANK			
Operating Expenses (Difference between net cost and revenues)	33.4	—	33.4
Expansion Programs, Use of Automatic Machinery, Training and Scholarship	6.1	—	6.1
Building New Branches and Offices(*b*)	2.0	—	2.0
Increase of Capital to Meet Rising Demands on Loans	108.7	—	108.7
Agricultural Bank Subtotal	**150.2**	—	**150.2**
GRAND TOTAL	**973.8**	**493.9**	**1,467.7**

(*a*) *Projects related to supporting services.*

(*b*) *Considered as recurrent expenditures as all bank allocations are listed under Chapter III of the Ministry of Finance Budget.*

CHAPTER XI

TRADE AND SERVICES

The contribution of the sector of Trade and Services (excluding education and health services) to Gross Domestic Product increased from SR 714 million or 8.4 percent of total GDP in 1382-83 to SR 1,529 million or 9.6 percent in 1388-89.

Wholesale and retail trade accounted for 77 percent of trade and services in 1388-89; banking, insurance and real estate for 7 percent; and other services (personal services, broadcasting, services rendered to pilgrims, professional services, religious services, etc.) for 16 percent, (see Fig. 41).

As measured by its contribution to GDP the sector of trade and services is expected to grow at an annual average rate of 12.2 percent over the period of the Plan, i.e. higher than the annual growth rate of 9.8 percent which was its rate of growth during the years up to 1388-89, (Fig. 42 shows the relative growth of the components of this sector).

CONTRIBUTION TO DEVELOPMENT

Trade performs a dual function in development. It provides the means by which the output of increasingly productive, specialized, and diversified industrial and agricultural production is channelled to domestic and international markets; and by which the growing and diversified demands of the economy for investment goods, raw materials, and intermediate and final products generated by development are satisfied, according to the natural requirements of the development process. Hence, the contribution of trade to development is measured not by the direct quantitative contribution of the sector to GDP, but by the efficiency with which it performs this function of integrating the growth in production of industry and agriculture with the growth in demand for investment, production and consumption goods; and by the quality and price of the products supplied to meet this demand.

The contribution of trade to the process of development can be increased by the following measures:

1. Improvement of the infrastructure of transport and communications;
2. Elimination of time consuming customs procedures;
3. Proper use of tariffs, tariff exemptions, and subsidies as instruments for encouraging economic development and the elimination of non-fiscal barriers to international and domestic trade;
4. Improving and increasing market information;
5. Enforcement of standard measures and specifications and quality control of products entering into trade;
6. Greater emphasis on measures to improve business practices, including the juridical base for the settlement of commercial disputes; and,
7. Improvement of the means for the supply of trained and skilled manpower.

Services may divided into two classes: the first satisfies consumer demand, and the second, such as banking, advertising, and consulting services, meets intermediate demand. The availability and quality of the first contribute directly to welfare of the populace, whereas the second contributes to improvement in the productivity of other sectors.

Both classes of services have developed rapidly in recent years in response to rising incomes and the growth of the economy; however, standards of consumer services, particularly with respect to hygiene and hotel accommodations require — as in all countries — continuous and persistent efforts for improvment so that the standards of service are raised to a level consistent with the development of other sectors.

OBJECTIVES AND TARGETS

The objectives for the development of trade and services are to:

1. Improve the efficiency of trade in the performance of its functions of directing production to domestic and international markets and satisfying the needs of all production and consumption sectors for primary, intermediate, and final products from whatever source;

2. Influence the growth of trade in such a way as to encourage the development of economically viable agricultural and industrial production and, hence, to support the plans for these sectors for diversification and expansion of production;

3. Improve the range and quality of consumer and intermediate services.

The specific targets are summarized in the following:

1. Targets to be achieved during the first year of the Plan:
   a. Establishment of a Planning Bureau in the Ministry of Commerce and Industry with a highly qualified staff to plan and coordinate the work of its division and provide coordination with other agencies of Government;
   b. Improvement of the system of collection of information on matters of interest to consumers and the commercial community;
   c. Continuation of participation in international fairs and exhibitions.

2. Targets to be achieved during the second year:
   a. Establishment of a commercial bulletin and commercial news services on radio and television;
   b. Establishment of a practical training program to meet the needs of the business community;
   c. Review of the present tariff structure in cooperation with relevant agencies, with a view to simplifying it and making it contribute effectively to the level of protection sought for domestic industry and agriculture.

3. Targets to be completed during the remainder of the plan period:
   a. Strengthening of the juridical framework for the settlement of commercial disputes;
   b. Review of the regulations relating to the investment of foreign capital;
   c. Implementation of all necessary measures to protect the interests of consumers and producers and to ensure fair business practises, including enforcement of standards of hygiene in public facilities.

PROGRAMS AND PROJECTS

Attainment of the objectives and targets specified above depends partly on implementation of programs of other sectors already described and partly on programs and projects within the purview of the Ministry of Commerce and Industry. These are summarized in the following discussion.

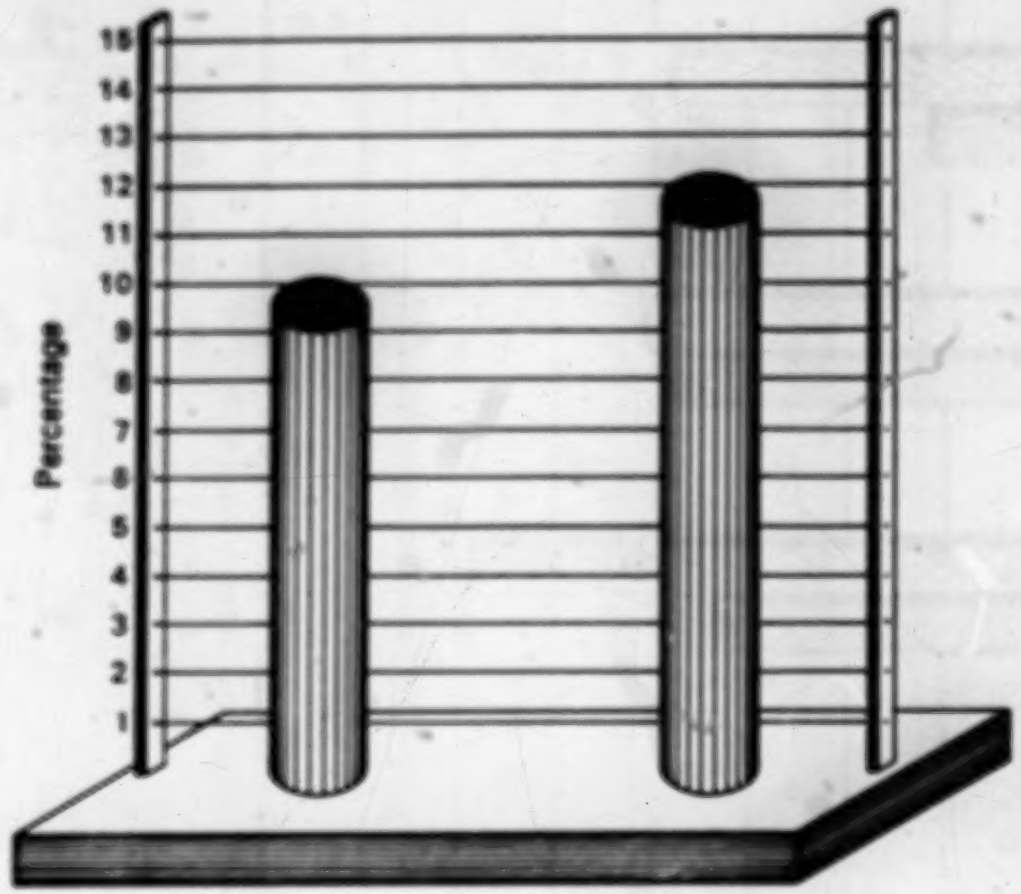
Planning Bureau

The Ministry of Commerce and Industry is responsible for all matters relating to the development of trade and services. On the one hand, it is concerned with service to, and protection of, consumers; on the other it must seek through the use of tariffs, tariff rebates, subsidies and other devices to protect and stimulate the development of domestic industry and agriculture. The interest of the consumer in the price and quality of a product frequently conflicts in the short-run with the interest of producers in the sectors of agriculture and industry, and hence the interest of the national economy as a whole. This last might give priority to the diversification of the economic base and thus dictate replacing imported products by similar domestic products.

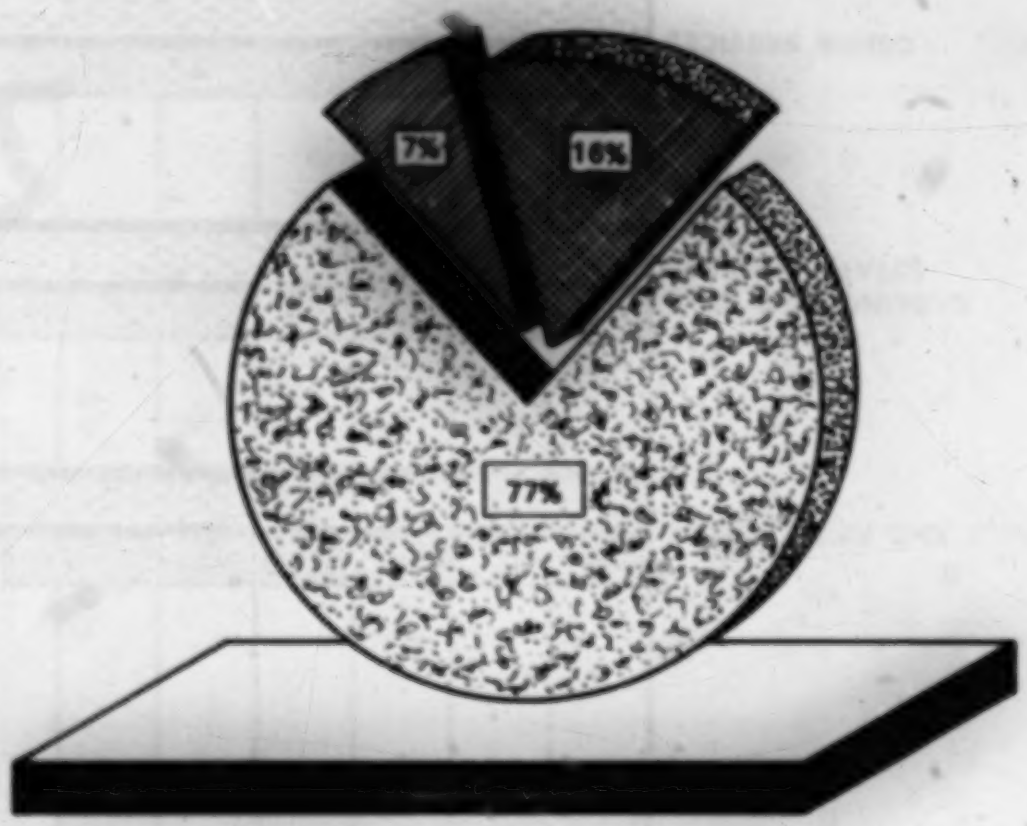
As reconciling these interests is a complex and demanding task, the most important program of the Ministry is to increase its technical capacity to perform effectively its functions of protecting the interests of consumers, encouraging development by tariffs, tariff rebates, subsidies, and other devices for the protection of domestic industry and agriculture, and stimulating the growth of domestic and external trade. This program calls for the establishment of a Planning Bureau of a high standard of technical competence to be attached to the Deputy Minister's office and to undertake the following tasks:

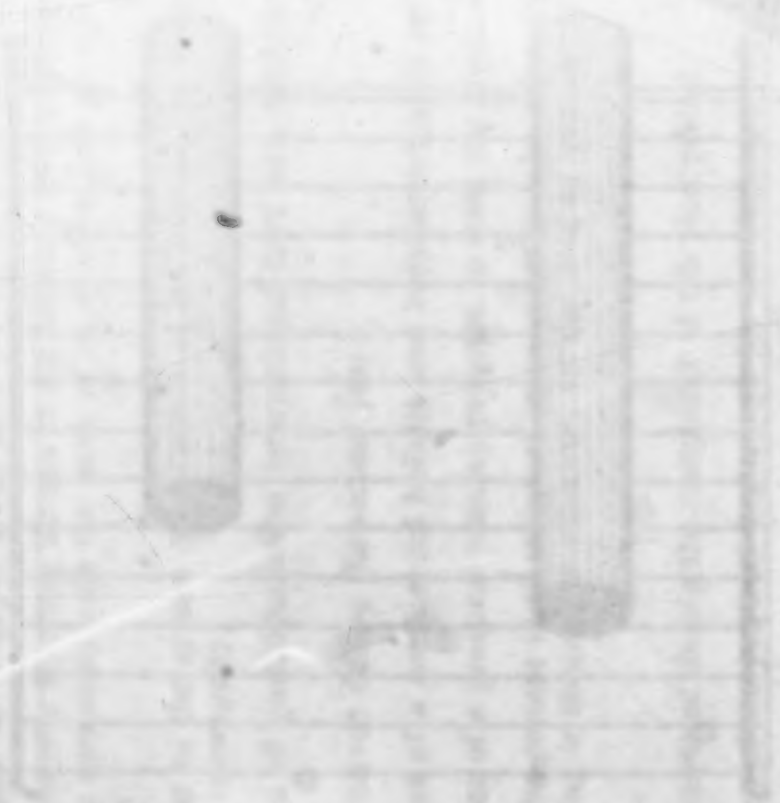
1. Coordination of the Ministry's efforts for consumer and merchant protection with the programs for the encouragement of industry and agriculture; and,
2. Surveying the views of the business community in an organized manner and taking the necessary measures to forward them to concerned government agencies.

RELATIVE CONTRIBUTION OF TRADE AND SERVICES TO G. D. P.



COMPONENTS OF TRADE AND SERVICES





THE GROWTH OF THE COMPONENTS OF THE TRADE AND SERVICES SECTOR IN PROPORTION TO GROSS DOMESTIC PRODUCT

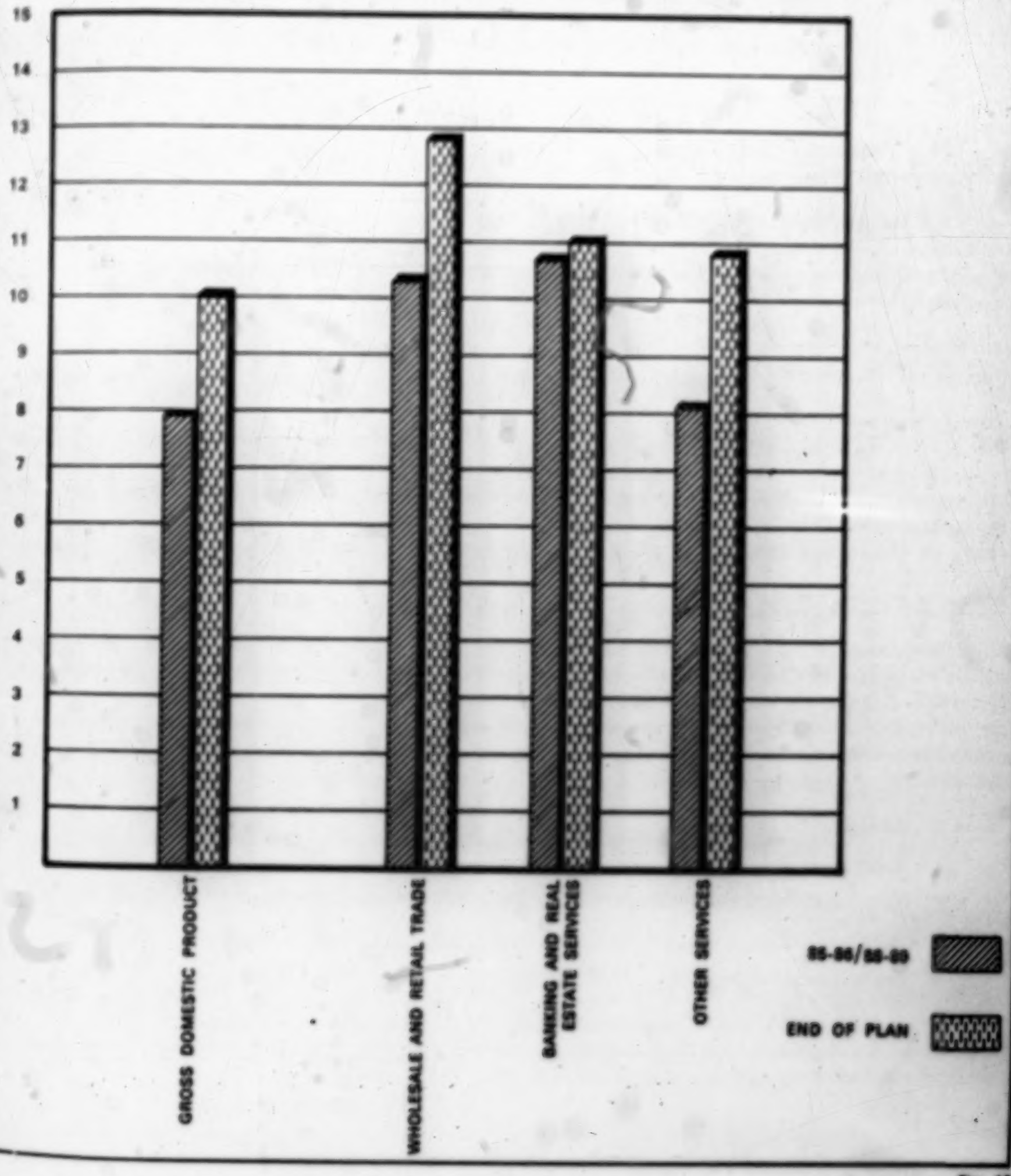


Fig. 42

Periodically, the work on testing the quality of products by the Central Laboratory will be made known to the public. The quality control inspectors will also participate occasionally in the Ministry's program for educating local consumers.

Arrangements for inspection of standards of hygiene in public facilities will be reviewed and measures formulated for providing increased protection for the public.

Price Stabilization and Controls

The Ministry will abide by the principle that intervention in the free play of market forces should be kept to the minimum, but it will use its regulatory powers to the extent warranted by movements of domestic prices.

Thus, in the light of the recent experience with some cereal prices and their local supplies, an integrated grain storage and milling facility will be built as described in Chapter IX for the purpose of maintaining a five to six-month reserve of wheat. This stock will be carefully managed so as to keep down and to stabilize the domestic price of flour; simultaneously the present system of subsidy payments on imports of certain other staple foodstuffs (rice and livestock) will be reviewed.

The welfare of consumers will be safeguarded by the enforcement, to the extent necessary, of ceiling prices on some of the major food items. On the other hand, necessary measures will be taken to stop abrupt price-cutting by some domestic producers aimed at eliminating competitors. Although producers of exportable goods will continue to be expected to satisfy domestic demand for their products in the first instance, a flexible policy will be followed.

Importers will be provided with up-to-date information on domestic inventories and will be relied upon to forestall shortages in local supplies.

Judicial Framework

The present judicial framework of the Ministry for the adjudication of commercial disputes will be strengthened. Past judgements will be analyzed and codified in the form of principles adequate for the needs of modern business. An appeals procedure will be instituted. The legal staff of the Ministry will formulate model contracts for dissemination among the Chambers of Commerce as well as criteria for penalties and indemnification for breaches of contract.

Foreign Investment Promotion

The investment climate in the Kingdom for non-Saudi capital is very favorable and includes, among other things, stable law and order, freedom to repatriate profits and an absence of exchange restrictions, assurance against expropriation by virtue of the Islamic Sharia Law, and exemptions from customs duties and taxes on certain imported industrial raw materials and equipment. However, at present competition is very keen among developing countries for foreign investment capital and consequently the existing regulations of the Kingdom will be reviewed in the light of the following possible incentives:

1. Permission for foreign industrial establishments to own property within the Kingdom;
2. Rapid issuance and renewals of visas and work permits covering two-year periods;
3. Conclusion of bilateral agreements with capital exporting countries against double taxation;
4. Tax exemption for companies until profits begin; and,
5. Income tax exemption of foreign staff for a limited period.

More energetic efforts will be made abroad to publicize investment opportunities in Saudi Arabia. The sphere of economic activity in which foreign capital will be welcome will not be circumscribed by manufacturing or mining but will be extended to certain services, such as refrigerated warehousing, catering, hotels and tourism.

FINANCIAL ALLOCATIONS

The financial requirements of the Ministry of Commerce and Industry for the sector of trade and services are shown in Table 66.

TABLE 66

FINANCIAL ALLOCATIONS FOR TRADE AND SERVICES

(SR Millions)

	Recurrent	Project	Total
Existing Programs	55.0	—	55.0
Planning Bureau	0.5	—	0.5
Commercial Information	0.8	—	0.8
International Fairs and Exhibitions	17.3	36.8	54.1
Training	4.0	0.3	4.3
Standardization and Quality Control	5.9	6.7	12.6
Total	**83.5**	**43.8**	**127.3**